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Model Railroad News

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Volume 15, Issue 7 • July 2009

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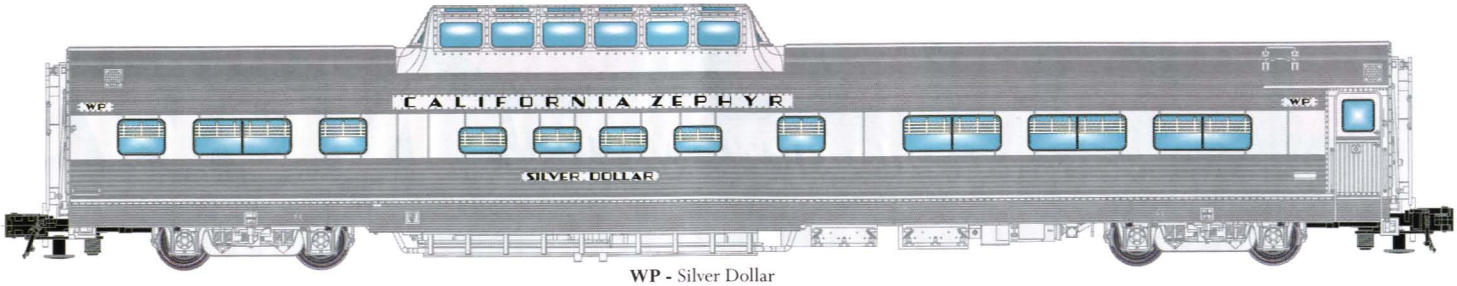

WP - Silver Dollar

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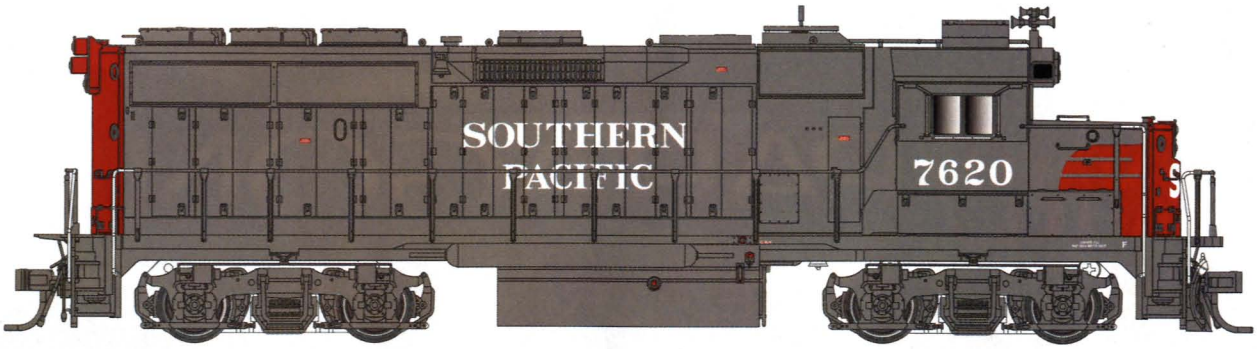
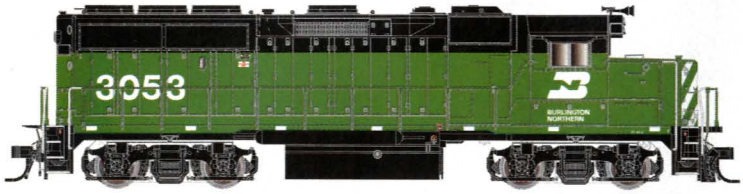
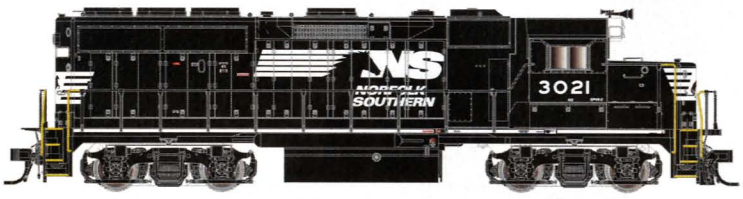


Southern Pacific

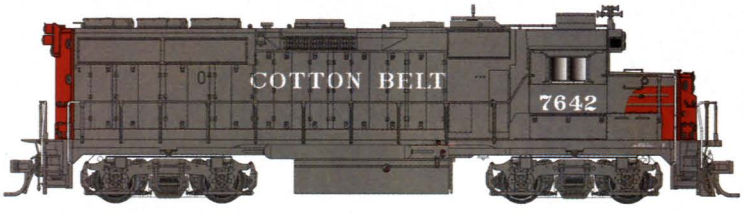


Burlington Northern

Boston & Maine



Norfolk Southern



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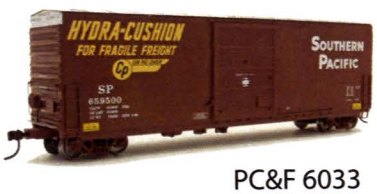

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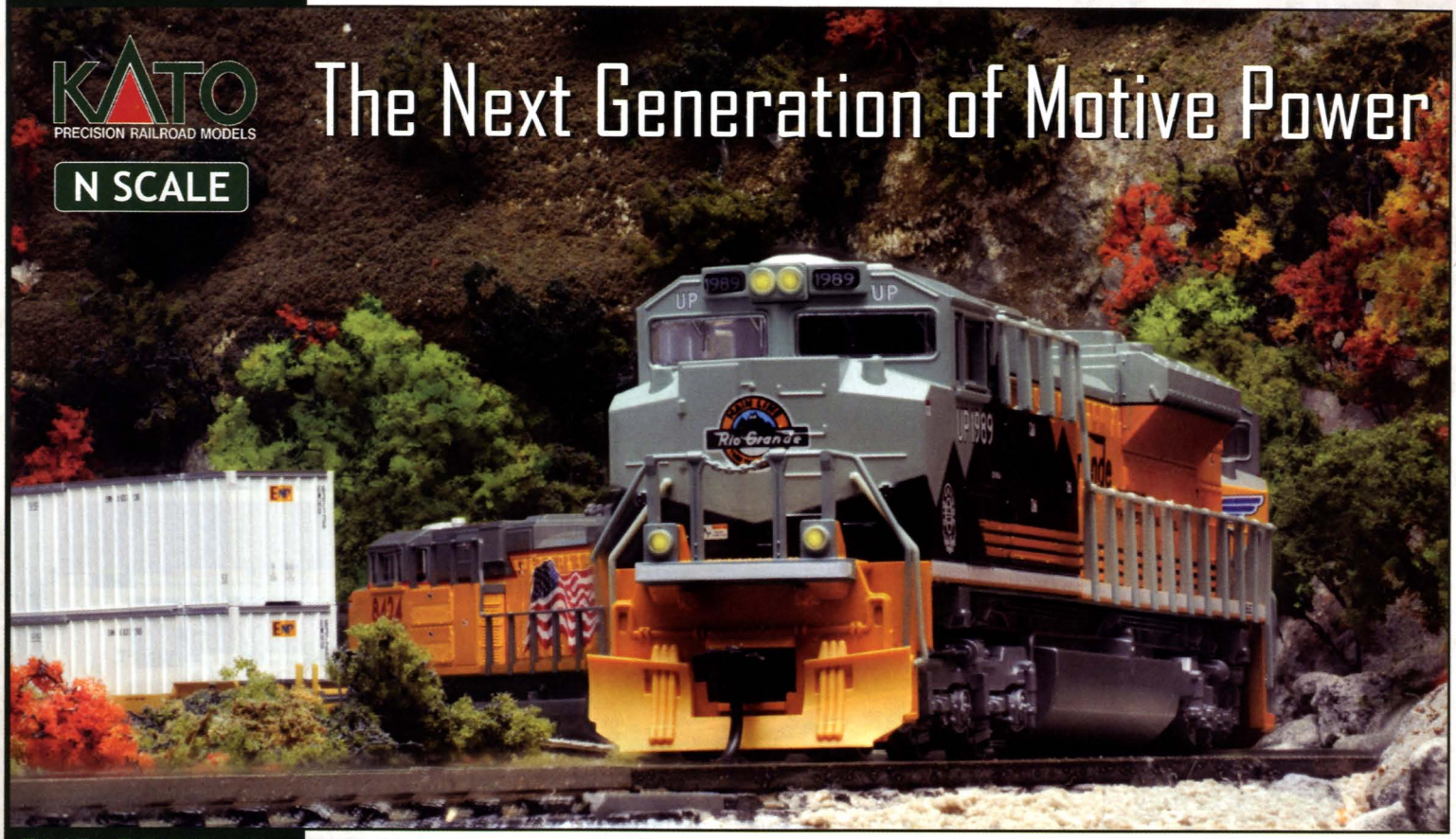

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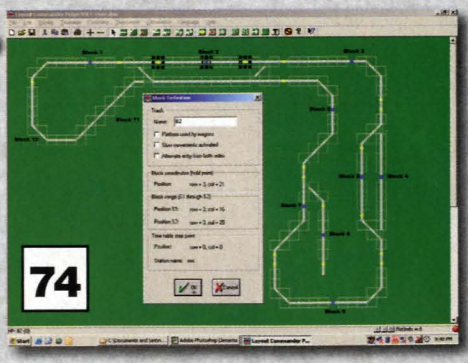
The Train List



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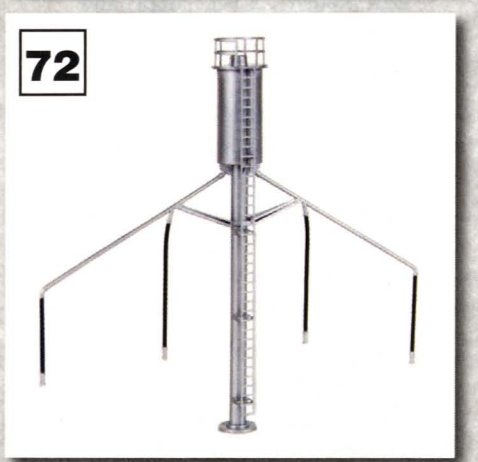

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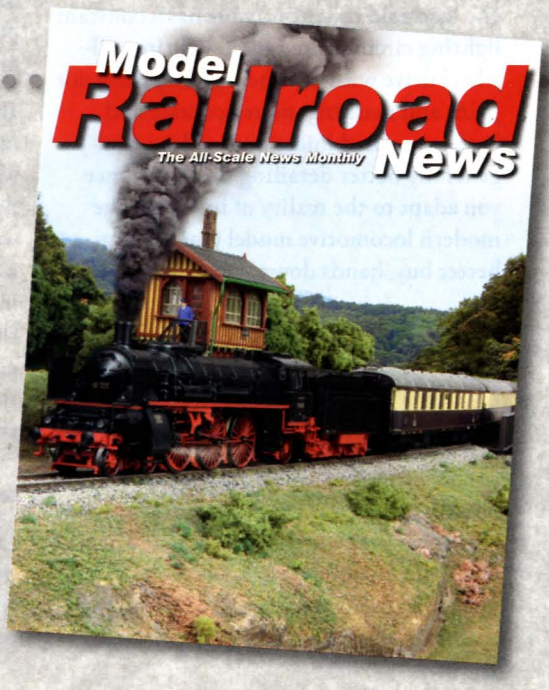
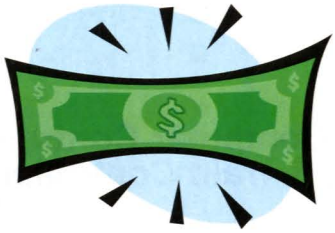
About The Cover: *On the outskirts of Karlsruhe, Germany, the Lokführer (engineer) signals with his whistle as the Rheingold Express speeds by the tower. Märklin has done a fabulous job with recreating in HO scale both the Class 18.3 steam locomotive and consist of this famous transcontinental passenger train, which operated from Hoek van Holland to Basel, Switzerland along the famous Rhine River.*
— Photo by David Otte



Editorial

Cheap model railroading



I get letters that I never answer. In many cases, the nature of the letter leaves nothing that requires a response, and a common topic is Cheap Model Railroading (CMR). So over the years, I've read dozens of CMR letters and responded to a few. Most of them are relatively predictable, complaining that the cost of a new loco is $150.00 when they used to go to the dime store and buy brand new locos for only $15.00.

So let's start there. In 1969, you could purchase a brand-new Chevy Bel-Aire sedan for around $2,000.00, a gallon of gasoline for forty cents, and a new pair of Levis jeans for $4.95. Inflation has swept over us in waves since then, and a brand-new family-sized Chevy sedan would cost you $18,000, the gallon of gasoline wobbles around but has been up to as much as $4.00 a gallon, and the list price on a pair of new Levis can run upwards of fifty bucks. We are working with a forty-year inflation change factor of as much as ten. So your 1969 loco selling for $15.00 would be ten times the price today, just because of inflation.

The loco sold today probably has a constant lighting circuit, directional lighting, all-wheel drive with all-wheel pickup, superior paint and masking, more accurate and better-executed injection molding, and generally better detailing. In short, once you adapt to the reality of inflation, the modern locomotive model is actually a better buy, hands down.

I handle hundreds of new models every year, and I played with trains back when. I still have some old locos from back in the day; most of them some pretty rough, primitive characters. We like to complain about the models being made in China nowadays and want to go back to the time when they were made in America. When was that? Most of the model rolling stock was being imported from the Orient and Eastern Europe back in 1969, forty years ago. After World War II, lots of items went offshore for manufacturing, model railroading merchandise included.

Most model railroad manufacturers, then and now, are basically importers. The industry is caught between producing a high-quality product and a cheap one; you don't get both in the same model. And higher quality has its own overhead. To protect this product, you must package it better, which adds value and cost to the final product.

Let's consider the alternative. There are cheapie locos on the market, right now, brand-new. In the case of diesels, these new pullers have only one powered truck, and power is picked up on only half the wheels. The gearing is unfortunate and noisy, giving you a loco that runs over 100 scale miles per hour at 12 volts, has one glaring light in the nose that's lit all the time. But it's cheap. Go to an on-line discounter and you can find locos selling brand new for less than $25.00.

So why don't we review these cheapies? Our review policy requires more than just a new paint job. We either want new tooling or new technology. The very reason the cheapies are so...cheap...is in part because the manufacturer is using old and well-established designs. You really do get what you pay for, and most of our readers would rather spend more and get more. Given a choice between ten cheapies for $250 and two very nice items for the same price, most of us want the better quality, and so that's what we look to represent.

The same happens in other phases of modeling, too. Trains run on track, and which track you select and how you lay it determines how your layout works. If you want to lay track the right way, use good materials and supplies, and have an interesting layout, you'll need to invest thought and study into the process. A good layout may cost you more money than a poor one, but what do you do with the money you save on the cheapie? You may end up spending it on continually repairing and rebuilding.

I've seen some cost-cutting ideas that have been just killer! One fellow uses weeds sprayed with paint to create mass-produced trees for just pennies each, letting him forest much of his layout. His use of multiple shades of green adds realism and depth, but at the end of it, most people instantly recognize the dried and painted decorations for what they are — weeds. Scale trees that have great realism either require a large amount of handcrafting time, or they bring a pretty price at the hobby shop.

So you can still build a model railroad layout on the cheap, if price is your primary requirement. If you want a quality layout, you don't have to pay for it all up front. Dreaming is good, but planning is essential. Go ahead and vision the finished layout, but then plan to buy a little each month. It takes some self-discipline, but you can buy a loco one month, a few cars the next month, a power supply and controller the month after, create a six-foot test track, and so on.

The real work of model railroading is done in the mind and the imagination. It's also done with frugal precision of the checkbook. Yes, I know you want that five hundred dollar locomotive, perhaps a Big Boy. Of course, you're modeling the Delaware & Hudson of the seventies.

So what do you really want for $500? One very nice Big Boy or one very nice diesel that fits your general layout theme, ten freight cars, five switches, a bunch of flex-track, some roadbed, and so on? Five hundred would build you a pretty nice layout ready for scenery or it could buy you just one locomotive.

I know guys with drawers full of locos and rolling stock they don't use because these items don't fit their theme. Impulse buying caused them to purchase things that don't fit on their layout. So the first thing the frugal model railroader needs to learn is to say "NO" to himself. Create a plan, know what needs to be acquired to execute the plan, and determine the order in which it is needed.

As time goes by, you'll find a well-planned layout construction will net you better results for less money. Then, instead of writing me letters cursing the industry for charging so much money, you'll be telling me about the enjoyment you're having.

— By John Sipple

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17410	SD70M Southern Pacific #9807*	17407	SD70M Norfolk Southern #2597
17411	SD70M Southern Pacific #9822*	17408	SD70M Norfolk Southern #2644
17412	SD70M Southern Pacific #9801*	17409	SD70M Norfolk Southern #2599
17404	SD70M CSX #4680	17416	SD75M Santa Fe #207
17405	SD70M CSX #4694	17417	SD75M Santa Fe #232
17406	SD70M CSX #4689	17418	SD75M Santa Fe #248

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Fresh From The RPO Car

More on the 12 Volt Limit

Re: Discussion on Voltages, in "Editor's Comments to MTH Letter," in the May 2009 issue. I think I know why the 12 to 16 volts for "DC" power packs. I believe it is an artifact, from the history of model railroading. I've been in model railroading for over 6 decades (Lionel tin plate 1940 – 1950, and HO circa 1944 – present). I think (but do not know for sure), that it is based on the ways model railroads were powered back in the old days. "DC" trains were either powered by 12 VRMSFWR (12 volts root mean squared full wave rectification) from a transformer and full wave rectifier (power pack), by true 12 V DC, from batteries (dry cell, or two 6-volt automobile lead acid batteries in series), or by a combination of rechargeable (lead acid) batteries and a transformer and full wave rectifier. During low draw operation and when the transformer was on, but power to the rails off, the batteries would be charged. During high draw operation both would supply power. During power outages and when the transformer was off, the batteries supplied 12 VDC power. To recharge the batteries, the voltage from the transformer and full wave rectifier would have to be somewhat higher than the batteries.

Automotive practice has been a charging voltage approximately 1/3 higher than the battery (e.g. 8 VRMSFWR for 6 VDC batteries and 16 VRMSFWR for 12 VDC batteries) [really no science in this ratio, just convention]. Two lead acid automotive batteries (in the old days) in series are 12 VDC. A power pack used without batteries needed to put out 12 VRMSFWR. A power pack wired in parallel with batteries would need to be 15 – 16 VRMSFWR. I would like to hear what other old timers have to say about this. I never used batteries, but I knew other model railroaders who did. One friend had a TT Gauge (smaller than HO, bigger than N, for those too young to remember TT) model railroad that he operated on (non-rechargeable) dry cell batteries.

For "GREEN" model railroading we should be turning back from DCC to DC, using 12 VDC batteries charged by flexible strip solar panels rated at 15.9 VDC. Let the Sun power the model railroad.

I remember, pre-WWII Lionel ran on both AC and half wave rectified power. When on HWR, the whistle would blow. You switched from AC to HWR to blow the whistle. The engines seemed to run faster on HWR than AC.

James Adrian van Wyk
Tinton Falls, NJ

A lot to think about there, James. When automotive 12 VDC applications are brought up, it is helpful to keep in mind that the actual voltage of many automotive power sources actually is 13.6 VDC, protecting against nominal losses in the system. You're correct about automotive power supplies being at least an early source of components, letting the model railroad world "piggyback" on the much larger automotive marketplace. Some of that still exists today, but we are now piggybacking on the digital parts supply, creating switching power supplies that can be tailored more specifically.

As to "green" operation using solar and battery technology to lift our layouts off the grid, there is nothing that prohibits the use of DCC. Some DCC systems will accept straight DC voltage input as they convert that into the very special AC structure used by DCC. Digitrax uses either AC or DC on its DCS 100 and 200 systems, Lenz is AC only, MRC is DC only, and NCE is AC only, giving you two choices in that group.

And that brings up the entire business of 12 volts. NMRA uses 16 volts as the maximum, and the number "12" may be historic but it is not a standard as you so accurately stated. A more realistic set-up for modern technology would use three 6 volt batteries in series to create 18 volts. This would use voltage management technology to keep between 15 and 16 volts for both DC and DCC utilization. –John

Switched to N Scale

I've always had O- and HO-scale model trains, but due to present physical space concerns, I am considering acquiring N-scale stock and material. At present, I do not know enough about N-scale to make an informed decision; I've heard a lot of pros and cons on the subject and now I'd like to hear what the pros have to say.

Any material and/or input you may be able to provide would certainly be appreciated. (The Pennsylvania Railroad's NGG1 and passenger cars have always been my favorite prototypes. Are these models available in N-scale?)

I would sincerely appreciate any material and/or input that you may be able to provide.

Philip V. Valone
Philadelphia, PA

Great to hear from you, Philip, and welcome to N scale. You're about to embark on an adventure that will enable you to run longer trains, model scenic vistas, and generally have a great time; all in less space than HO and O.

As with any scale, if you pay for quality, generally you'll get quality. Avoid the "Christmas Tree" train sets; rarely do they hold up in the long run. One notable exception is the Atlas Trainman N-scale sets (last reviewed in the December 2008 MRN*). They are great starter sets and come equipped with Atlas roadbed track, a quality locomotive, several Trainman cars, and a good starter power pack. Or if you'd rather put your own set together, my favorite locomotives are offered by Atlas and Kato; Micro-Trains rolling stock is of the highest quality; Kato offers an extensive line of roadbed track; and MRC makes the best DC power packs in the business. If you hold on to your back issues of* MRN*, browse their pages for N-scale reviews to see what's available.*

I've been in N scale since 1969 (although I've dabbled in other scales as well), and the only real drawback that I've experienced in the past few years is my eyes are getting weaker; bi-focals are always on my head (except when I sleep) and I seem to do all modeling work (e.g., repairs, construction, etc.) under a big magnifying glass. I've recently begun experimenting with S scale (just a shelf-sized switching layout), and while I still need the glasses, I find the details a bit easier to see.

Now that you've heard from the "old guy" in the group, I asked Steven Goehring (formally our TAMR — Teen Association of Model Railroaders — columnist) to give the "younger man's" perspective on N (not to mention he's a huge Pennsy fan). –Phil Scandura

Hello, Philip,

You picked the perfect time to switch to N scale! Kato, a master of quality N-scale locomotives, has recently released a very fine GG1 model in N. They just shipped a second roadnumber of the green 5-stripe GG1 in May, and maybe they'll have their red 5-stripe GG1 on the market by the time you read this.

For passenger cars, you can probably find the Broadway Limited *set from Kato, or build up a train from Walthers and Intermountain passenger cars. Unfortunately, you'll have to scour the depths of resin shells and kits for more accurate PRR-specific coaches, but perhaps they will follow in time. For more information on the Kato products, see the reviews in the February and April issues of* MRN *(for the GG1 and* Broadway Limited *cars, respectively.)*

If you're looking for the scale known for full-length trains, realistically scaled scenery, and not taking over all of the house, you've found it. Welcome to N! –Steven Goehring

May Editorial and Short Circuits

Your Editorial in the May issue reads: "... north out of Los Angeles, you hang a right and head over the mountains." Yes, that's right; sort of.

After leaving the respective BNSF and UP yards between Los Angeles and Long Beach trains do, more or less, head eastward. However, they must travel between 40 and 50 miles eastward to San Bernardino where they make a true 90 degree turn to the left to start the arduous climb to Cajon Summit.

In addition, northbound trains can travel up through the former SP Soledad Canyon line to Palmdale, in addition to the Coast Line.

The SP's Cajon line was built so that trains from the east could go on north, from West Colton, so that they did not need to do so by way of Los Angeles, and vice versa.

Your response to turnouts shorting-out was interesting, also. I have been running my HO layout on DCC for over three years now, and a few months ago and without warning, locomotives started to short out and shut down the entire layout when crossing switch frogs.

I had replaced some of the turnouts with more up-to-date DCC-compatible ones so I assumed this was the problem, so I put the previous ones back in, but still have the total shut down. It is frustrating to say the least.

C.F. Chuck Colville
Moses Lake, WA

Thanks for keeping me honest, Chuck. What really illustrates the tortuous railroading that takes place here is that a train headed generally north ends up going generally east by making a true 90 degree turn to the left, and it doesn't end up in the Pacific Ocean!

As to your shorts, I noticed you said that more than one locomotive is shorting out on more than one switch frog. Use an NMRA gauge to check wheel set spacing and make adjustments for the good of the order. I don't know what else changed at that moment when the shorts began, but something became different. Did you change any wiring? Are your switches "live" or "dead" frogs? Generally, dead (insulated) frog switches won't cause this problem, so you might have to go kill some frogs! –John

Dick Karnes on Switch Shorts

Good article — enjoyed it very much! In regards to figure three re: shorts (TODCC, May 2009) on turnouts, however, I must be completely dense. Even if the back of a metal wheel touches the tightest place in the switchpoint flangeway, isn't the polarity the same? What in the world am I missing in this regard?

While I have you on the line, I do have another question in regards to turnouts. I use almost exclusively Peco insul frog turnouts in HO and DCC. A short is often times created at the V point in the turnout where the rails are in very close proximity to one another. This seems to be the case with the older 100 series decoders by Soundtraxx. Other decoders are OK, including QSI, Digitrax, TCS, new Broadway Blue Line, etc. Is there a cure for this without replacing all my older Soundtraxx decoders?

Paul D. Shaw
Murray, Kentucky

Paul, NMRA standard turnout wiring has no gaps in the closure rails, and no jumpers between the stock rails and the closure rails. Thus, the closure rails always have the same polarity as the frog. This can cause the type of short discussed in the article. I realize that many commercial turnouts are wired differently, but many are not. I always convert my turnouts to the gapped/grounded type so as to avoid this situation.

When you talk about the "V," I presume you mean the frog point, and that you are experiencing a short because metal wheel treads bridge between the two rails that end in the plastic frog point. If this is the case, the solution can get very expensive — replacing your wheelsets with wheels that are thinner. However, I suspect that your success with some decoders is not because of any particular difference in wheelsets (although this could be), but rather that some of your decoders are more forgiving of very transient short circuits.

But let me suggest a cheap alternative: Ask your wife or other female family member or friend to recommend the most durable nail polish brand. Obtain a bottle of this brand (clear not colored). Clean the top of your frog with rubbing alcohol. Then brush a tiny dab of polish on top of your frog point so as to cover the portion where the rails are too close together. Let dry for perhaps a day. This should do the trick, and should last for many years before another polish application is necessary. –Dick Karnes

Coal Truck Memories

Seeing the "man" with a shovel at the coal chute (Pg 80, May 2009) reminded me of olden days when coal was the primary heating source for homes.

Noted the chute that comes with the truck is rather large. A suitable piece of styrene channel would look much better, painted silver and heavily weathered. Such chutes were hung on the sides of the truck — chutes on both sides on many trucks.

Bob Warren
Los Lunes, NM

Wow! It's like déjà vu! Growing up in Geneva, Illinois, my home had a coal bin in the basement, filled by a chute from the coal truck, very much like the one pictured. When I was around eight (1950), my dad got sick and tired of unsticking the coal auger and switched to oil heat. Over the next year or so, the old coal bin got removed, the space reclaimed, and that was where our first HO layout was created. Thanks for reminding me. –John

Baby, You Can Drive My Car

I agree with Bill Cawthon in that I would rather put a driver in my models (if I want one), than have to pay extra for one and end up taking it out. Our vehicle models are expensive enough, as it is.

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On to the CMW Fuel Truck... Your "friends in the oil business" are correct about the usage of trucks this size...in more modern times, or in large towns. When I worked at a small Sinclair service station in my home town in 1966-67, our fuel was delivered in a truck very similar in size to the CMW model. It was a station which had been built in the early fifties, and our underground tanks weren't all that big. I'm guessing but probably not over 1,000 to 1,500 gallons. Our jobber would deliver about 600 gallons of regular and 300 gallons of "Ethyl" every few days. I know that doesn't sound like a lot (in this day and time); but people did not do nearly as much driving back then as they do now. Especially in a small town of 13,000. A morning "commute" was 2 to 3 miles... and that's if you lived way out on the edge of town!

Most of the other stations in town (and there were a LOT of them) were similar in size and age, so a small truck like this would have been sufficient for most of them. That said, in 1968, I went to work at a larger Conoco station out at the edge of town which did have some big above-ground tanks that were filled from a semi. So, I guess it all depends on what you are trying to model.

Gary Roe
Quincy, Illinois

Hi, Gary, thanks for the comments. In these days of big eighteen-wheel rigs, it's good to remember that things weren't always this way. Back in the 1950s, short "straight" trucks and single-rear-axle tractors were the norm; Ford didn't even offer a factory tandem axle until 1954 and 40-foot trailers didn't start to become common until late in the decade. I am glad that Classic Metal Works is making the effort to bring model railroaders trucks that really are appropriate for the time. –Bill Cawthon

What's to Become of Project DCC?

Are you planning to publish the Project DCC series of articles as a booklet when the series is complete? I think it would be nice to have them all bound into book or magazine format.

David Payne
Acworth, Ga

We're planning to do something, David, but right now, we're sizing up all the options. In addition to print media, there are also electronic media options. Phil has created a wonderful publishing project, and now the challenge is to deliver it beyond our magazine pages. There is more text and many more images than we have had space to run, so our publishing decision has to look at supplying all of it. We probably won't make any decisions until the final installment goes into print. –John

DCC Questions

Steven's article about DCC in the March issue was very helpful and I would like to learn more. For example, how well did the DCC provide smooth operation at very low speeds such as when hooking or unhooking rolling stock? Was it identical to DC where the engine speed can be precisely controlled and wheels can be made to barely turn without jerks?

How many N-scale engines could Steven run at a time before performance was slowed down? I know the answer depends on the power supply of the DCC and the electrical demand of the engines, but some idea of what it can reasonably handle with the provided power supply would be helpful to know. DCC can control upwards to a hundred functions and trains simultaneously, but where do you get a large-enough power supply? It seems like the controller is "oversized" and the power supply is "undersized" for the typical user.

Many of us have older engines and you indicated some of the pain and hardship of installing decoders in N-scale. Are there any manufacturers or shops that do this as a service? Would it be better in your opinion to replace old engines with new ones that come complete with sound and decoder? Of course the answer depends on the value of the old-timer, but any guidance or suggestions you have would be very much appreciated.

Gerhard Ligon,
Cary, NC

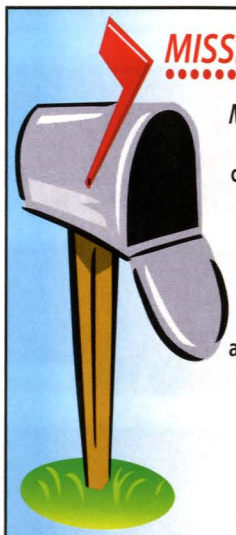
Hi, Gerhard, I'll pen this in Steven's stead, since a deadline is looming. I have found that the right loco with the right decoder can deliver speed so slow that you can count the seconds from one tie to the next! When used with some momentum, this creates unbelievably smooth starts and stops while providing exceptional slow speed operation.

One of the big issues with DCC in the minds

of those who aren't using it yet is the business of running more than one locomotive at once. The word "running" is key here. Most of us don't want to do the heavy multi-tasking needed to juggle two or more moving trains at the same time, so most of this multi-train running is in terms of active locomotives that can be moved whenever you desire without having to flip block switches. For N-scale, you might assume an average draw of a quarter amp per locomotive at full load. If your DCC system gives you 1.5 amps of power, that would suggest six at once. However, when you MU or double-head two or three locos, all of them tend to share the work, and so the total train draws about the same energy with only a little overhead for the extra engines.

The conversion of older locos varies considerably from "rather easy" to "very difficult." The key thing is to sort your pile of locos into a pile of the easy and a pile of the hard. Then go through these piles and select your true favorites. Convert the easy favorites first. If you have a difficult favorite, you might make arrangements with Tony's Train Exchange or a local specialist who can do the conversion. As you work through some of your favorites, also see if you can experience factory-installed DCC Sound and decide if you'd rather spend money on your old stuff or add some new locos.

You should also know that DCC does not close the door on DC! Digitrax and Lenz systems will allow you to run DC locos on Address Zero. If you put a DC loco on your DCC track and dial up Address 0, you can run that DC loco with your DCC system. There are some caveats about this process, so read your system manual very carefully. Also, most modern decoders will run just fine on regular DC. Your DCC-equipped loco may not behave exactly as a non-decoder-equipped version might, but you can certainly run them, if they have active DC operations enabled. In short, DCC is all about opening doors for model railroaders. –John



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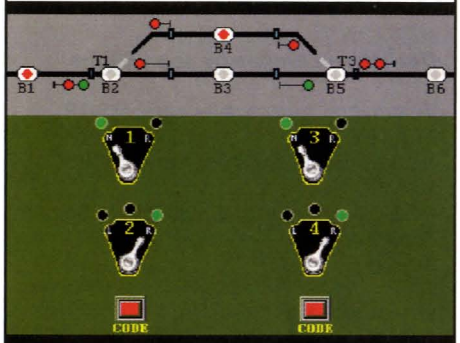

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REVIEW N

ExactRail Breaks into N-Scale!

Review and Photos by John Sipple

Vert-A-Pac Automobile cars, MSRP: $24.95
PC&F boxcar, ready to run, MSRP: $24.95
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Our samples, from top to bottom are the Hy-Cube boxcar dressed up for the SP, the Vert-A-Pac with a Trailer Train flat car, and the buy-two-get-one-free three pack of covered hoppers.

THE Vert-A-Pac automobile car is being offered in three roadnumbers each of the following roadnames: BN, DRGW, FEC, IC, MILW, and SCL. The PC&F 6033 cubic foot Hy-Cube boxcar is available in Alaska, SP, UP, WC, WP, and an undecorated kit version. Proving that one grain car is never enough, the Trinity 5161 cubic foot 3-hopper car is offered in three-packs with three different roadnumbers on the following roads: BNSF, CSXT, DME, IC, NS, Soo/CP, and UP.

Three Exciting Freight Car Types

Some folks find it easy to forget that most freight cars are bought to serve a particular market need. We have three freight cars, and each has been designed for a particular type of service. SP's B-70-32 boxcars certainly fit this description. These fifty-foot products of 1966 and 1967 were purchased by SP specifically to haul appliances. Relatively speaking, appliances make light loads, so going to an extra height let the interior reach up to 12-feet 7-inches, allowing an extra row of ranges or dishwashers on the top. A single 10-foot 6-inch Youngstown sliding door was sufficient for each side, but the car was equipped with Hydra-Cushion underframes to limit the damage to this new kitchen automation.

A few years later, in 1970, Chevrolet and Southern Pacific teamed up to create a car for a very specific purpose. The automaker was ramping up to produce its first subcompact car, the Chevy Vega. With model years from 1971 to 1977, the majority of production would be at Chevy's Lordstown, Ohio, assembly plant and they would need reliable and inexpensive transportation for these little cars. The Verta-Pac was designed to hold 30 cars instead of the usual 18 you could load onto a triple-deck auto car. The secret was to hang the cars like bats, heads down with the roofs pointed to the inside. The sides swung down with fifteen doors on each side. The car would be maneuvered onto the ramp-like door. Then it would be drained of all fluid while it was tied down.

This design used a basic 89-foot 4-inch flat car from Trailer Train with the unusual Verta-Pack equipment added on top. The Vega lasted in production a total of seven years, cranked out just short of two million Vegas, and if you counted in almost 150,000 Astres from Pontiac and 3,500 Cosworth high-performance versions, the grand total came to 2,113,909, the majority moved to other places via the Verta-Pacs. But the program was fairly short-lived. The Vega hit its production peak of around 460,000 cars in 1974 and dipped to under 160,000 in 1976. The final year saw less than half of that.

For the railroads, loading and unloading was slow compared to "circus" loading on a standard auto-rack. To close and open the doors required a specially equipped, heavy-duty forklift. When the Vega program ended, neither the railroads or the auto companies were pining to do it again, and so the Verta-Pac superstructure was removed and the trailer was put to better use.

Despite the large numbers of covered hoppers, in fact even they can be ordered to meet cargo needs. The number of bays on a covered hopper relates directly to cargo density. High density such as rock or cement powder will require the shortest type of car, a 2-bay. The four-bay, on the other end, is for very light materials such plastic pellets and cereal. In the middle, with three bays, is the very pop-

ular mid-density hopper. Heavier grains such as wheat berries and corn fill trains. BNSF often builds trains 10,000 feet in length, which if you added in the locos, slack, and all the rest, would give us over 150 cars. Out of a 286,000 pound gross rail weight, 223,600 pounds are lading.

BNSF took receipt of the curved-side, three-bay hoppers of this number series (478000 – 483999) from 2004 into 2006. Each of the four purchase orders came to about 1,500 cars, taking this new batch of grain haulers to right at 5,920. With their long loading trough hatches, these cars could be loaded in a real hurry, and the triple dumps were originally delivered as straight gravity drops. They featured a strengthened center sill for greater endurance. The railroad clearly saw a market for this kind of haulage, and equipped themselves appropriately.

Bottoms up! The boxcar is a master class on underside detailing. The hardware in the center, under-the-door area, is the Hydra-Cushion mechanism. The triple covered hopper car is not a center-flow because there is a center sill down the length of the car, though it doesn't interfere with unloading. The extra-long coupler tangs on the Vert-A-Pac trucks are the price you pay for a long reach.

Exactrail's N-Scale Freight Cars

These three freight car types are actually rather complicated to reproduce. I don't know they're the ones I would have chosen, but looking out on the industry's N-scale offerings, I have to agree. This appliance car is a perfect example. It's easy to work a freight car type that comes from the center of a design period, but to get a transitional model is much more demanding. In 1964, AAR adopted rules that prohibited rail workers from climbing on boxcars, whether they are rolling or not. Such climbing was tallying up a notorious record for work-related accidents, and both the railroads and the unions wanted it stopped.

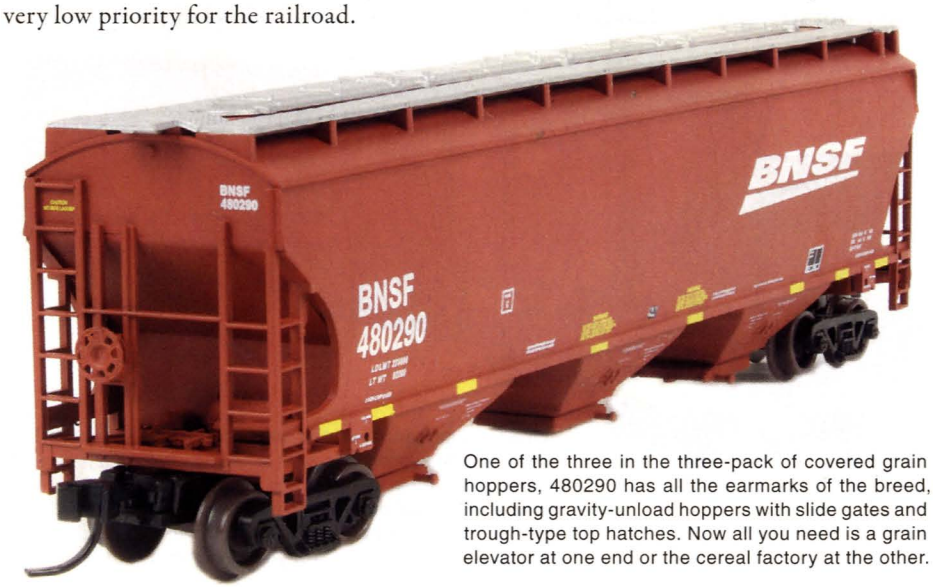
To stop this problem, they had to remove the opportunity. The roofwalks were removed from the top, the ladders were cut short, the brake wheel was moved down, and a crossing grab iron was created. Since the rule was implemented in 1964, that meant all existing cars would be modified as they were shopped, while no new cars would be permitted that violated the rule. Since our cars represent 1966-67, they would be some of the earlier implementations.

There is no particular reason why the sliding door should work, and so it doesn't. Too often, in the process of making doors actually slide, the modeled hardware becomes too big to be honest and too fiddly to be reliable. The shortened ladders are molded in place, making a good illusion, and one the eye believes until it resorts to a magnifier for confirmation. The tack board on the end of the car is also molded in place, meaning that the hollow space behind the board as a result of the dreadnaught end is really filled with injected styrene. Again, this isn't really noticeable until you pick up the car to examine it.

This car is 50-feet 6-inches inside and that translates to a measurement over the strikers of just under 51 feet. As with the rest of the measurements, this one is very close to dead-on. The detail on the underside is almost staggering in its complexity and accuracy. The prototype was built upon the center sill, side sills, and ribs using finer support with crossed frames to hold up the final floorboards, which are many and narrow. All of the brake gear plumbing is just right. I almost wanted to get a second one and display it, belly up, down in a ravine where its recovery was a very low priority for the railroad.

The paint for this car and the other two is beautifully applied and very accurate. Using a magnifier, I read the information, finding it to be quite authentic both in content and in letter form. The Vert-A-Pac not only has to have paint and lettering for the superstructure, the Trailer Train flat car has its own paint and lettering.

The couplers on all three-car types are a plastic, magnetic knuckle-type. The wheel sets are cast plastic and run very smoothly while arriving with them all seated in place correctly. The trucks swing around a king pin that screws into place. For the Vert-A-Pac car, the coupler truck mounts are very elongated to reach from the truck to where the draft gear should be located. This could allow it to swing very tight curves, but we'll get into that in a minute. It also predicts some difficulties with backing the car,



One of the three in the three-pack of covered grain hoppers, 480290 has all the earmarks of the breed, including gravity-unload hoppers with slide gates and trough-type top hatches. Now all you need is a grain elevator at one end or the cereal factory at the other.

The white tab on the end of the car is the traditional warning this car is taller than Plate C standards. In fact, it was about three inches over 16 feet. The warning also reminds everyone that there is no roofwalk, but then when this car was built, it was against the rules to be on top of the car, anyway.

especially if it's next to the engine in the push of a longer train.

Our trio of covered hoppers represents a number of interesting modeling issues. First, as a package of three, they offer three virtually identical cars with different roadnumbers. In this case, our three samples represent cars that were built for BNSF by Trinity in the first half of 2005. These have a similar appearance to Center Flow hoppers introduced by ACF back in 1964. Despite the external likenesses, these are two very different cars, and these models are true to the later prototype.

The early Center Flows got their name because they used their round shape to do away with the center sill found on most cars. Still, to get maximum capacity out of a given form factor, the center sill was a better arrangement in terms of strength and durability, so most makers of covered hoppers offer both. The center sill type, as represented in these Trinity cars, doesn't need to hang the trainline pipe down the lower outside of the car, and thus it's hidden from view, just as on our samples.

Operation

First, we need to measure the length and weigh each car so we can determine what weight it should be, in NMRA terms. The Vert-A-Pac (VAP) car is 6.75 inches long and weighs 1.5 ounces. Using the formula: 1 ounce plus 0.1 ounce per inch of length, I arrived at 1.68 for this car length, and 1.5 ounces is close enough. The Trinity hoppers run 4.25 inches long and each weighs one ounce. The formula says 1.43, and so these cars are a bit light, though it didn't bother their operational performance. Finally, the box is four inches long and weighs 1.1 ounces. The formula offers 1.40, a bit heavier than the actual car.

I put all five cars into a non-prototypical train, since the VAPs were gone long before the Trinity cars were built in 2005; the few B-70-32 boxes left in operation belong to other operations than SP, and are mostly rust boxes by now. However, dressed in their "brand new" paint, they make a pretty nice train. The three hoppers run very smoothly with no hunting or other issues.

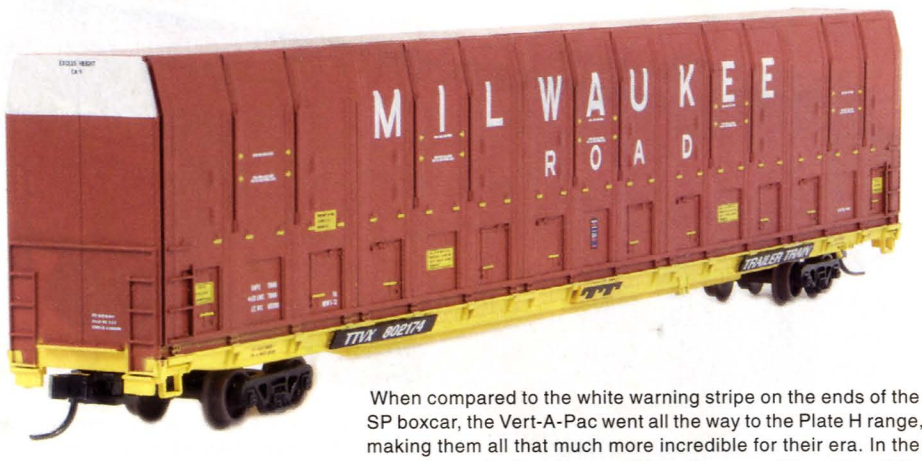
The B-70 box had a slight wobble left and right that sped up or slowed down with the train. I looked for a wobbly wheelset or out-of-round wheels but found nothing to account for this. Yet, there it was, but it was minor enough that I could ignore it in the middle of a big train. The VAP ran very smoothly on the straight-a-way, but derailed persistently on our 11-inch Kato track curves. Again, I looked for defects that might account for this, but found nothing. Given the overhang of this big car, I'd want much wider curves, just to keep it from looking goofy.

I tested all three-car types on older Atlas code 55 from before their recent upgrade. You'll be pleased to know they didn't chatter their flanges on the spike heads, running very smoothly and quietly. All wheel sets were in gauge and met Plate C clearances to the sides. The boxcar is an extra height item, but nothing like the VAP. If your layout features close overheads, I'd check them carefully before running extra height cars. With the VAP, I'd also slowly check side track clearance on curves.

ExactRail is here!

These are very impressive cars. The design and execution of each product is excellent, from the mold concept out to the paint. Couplers work the first time and are consistent, in part because they are at the right height. Wheels run well because they are molded with correct width and proper flanges. Even the Vert-A-Pac probably doesn't have any business on eleven-inch curves. Twelve and a half to thirteen inch curves isn't asking a lot in a layout that is handling 86-foot cars.

With a commitment to quality in all aspects of each model, ExactRail is poised to be very popular among modelers. This choice of prototypes to model has been very interesting, and I can't wait to see what they come up with next!



When compared to the white warning stripe on the ends of the SP boxcar, the Vert-A-Pac went all the way to the Plate H range, making them all that much more incredible for their era. In the case of model railroaders, you'll want to know this car is a little over an inch and a half above the tops of the rails, giving you the opportunity to check over your layout in advance.

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New Body Styles for SP and Conrail Cabooses

MULTI — Micro-Trains has released five 40-foot standard boxcars in Z-scale. They have also released a new body style for SP and Conrail cabooses, along with a 60-foot excess height boxcar, two 40-foot drop bottom gondolas, an ACF 3-dome tank car, a 40-foot standard boxcar, and a 50-foot rib side boxcar in N-scale. A 30-foot boxcar is available in Nn3, and a 30-foot log car has been released for HOn3.

Z Scale

A 40-foot standard boxcar with plug door has been released for South Carolina. The car is the twelfth car of a 50-car series representing each of the 50 states in the union. It bears the Great Carolina Wren and Yellow Jessamine, South Carolina's official state bird and flower. The flag of the state is in the background. The road-number 1788 represents the year the 'Palmetto State' was admitted into the union. The boxcar (#502 00 51) retails for $22.95.

Two 40-foot standard boxcars with single doors have been released for Missouri Pacific. They are painted blue and yellow with a white band. The logos are red and the lettering is in black and white. They are available for roadnumbers MP 46887 and 46960. They were built in 1925 by General American, serviced in October 1951, and run on Bettendorf trucks. Seven hundred boxcars were taken at random from three sets of car series, among which is the series 46000 – 46999. In 1951 and 1952, they were rebuilt by Missouri Pacific Railroad shops at De Soto, TX, and converted into Eagle Merchandise Service. The boxcars (#500 00 571 & #500 00 572) retail for $30.40 each.

Two 40-foot standard boxcars with single doors are now available for Southern Pacific. They are painted silver and black, with orange and red logos, and

black lettering. Car numbers SP 163324 and 163326 were built in June 1946 by Mt. Vernon Car Co., serviced in February 1956, and run on Bettendorf trucks. The silver "Overnights" paint scheme was adopted in late 1955; the herald was SP *Daylight* Orange with black lettering; the logo lettering was SP *Daylight* Red. The word "Overnights" was dropped in 1957 and shortly after, in 1958, the color of the herald was changed from orange to *Daylight* Red. However, no attempt was made to repaint the entire fleet of overnight cars. The silver "Overnights" paint scheme was seen into the late 1960s. The boxcars (#500 00 581 & #500 00 582) retail for $24.90 each.

N Scale

A bay window caboose has been released in a new body style for Southern Pacific. It is painted mineral red with *Daylight* orange ends and bay sides, and lettered in white. The caboose is available for SP 4759. It was built between March and May 1980 by International Car Co./ PACCAR and runs on Bettendorf Swing-Motion caboose trucks. The bay window, or side-hung cupola, debuted on the Southern Pacific Lines in 1947. They were designed in response to increasing freight car height and the resultant decrease in visibility from the cupola. The caboose (#130 00 010) retails for $32.85. (See the full review in this edition.)

A bay window caboose has been released in a new body style for Conrail. It is painted Conrail blue with a black roof, and has a white logo and lettering. Conrail 18438 was built in January 1946, serviced in December 1977, and runs on Bettendorf Swing-Motion caboose trucks. This caboose was originally built for Southern Railway, acquired by Penn Central, and then Conrail. Ex-Penn Central number 18438 still wears its 'as-built' class N-5H. This bay window caboose was scrapped in December 1986. The caboose (#130 00 020) retails for $26.65.

A 60-foot excess height boxcar with double plug doors and rivet sides is now available for Penn Central. It is painted Penn Central green with a white logo and lettering and black lettering on white "Excess Height" message. It is available for PC 221005. The car was built in July 1973 by Greenville Steel Car and runs on Barber Roller Bearing trucks. It is one of a small series of 20 excess height boxcars that wore the large "PV" logo through the 1980s, well past the merger with Conrail in 1976. The boxcar (#102 00 090) retails for $24.60.

Two 40-foot drop bottom gondolas with coal loads are available for Illinois Central. They are painted boxcar red with white logos and lettering, and are available for roadnumbers IC 85725 and 85727. They were built in July 1952, serviced in September 1955, and run on Bettendorf trucks. The Illinois Central Railroad is the oldest land-grant railroad in the United States. The system encompasses 2,700 miles of freight railroad lines, traverses six states, and is the 10th largest railroad in the nation. The Illinois Central Railroad played a prominent and enduring role in the evolution of the United States. The gondolas (#083 00 071 & #083 00 072) retail for $18.20 each.

An ACF 3 dome tank car has been released for the Union Tank Car company.

UTLX 1328 is white, with a black belly and black lettering. Built in March 1937 by American Car & Foundry, this tank car's dome stenciling indicates it carries white oil and is equipped with heaters. It runs on black Bettendorf trucks. Union Tank Car Company is a railway equipment leasing company (and car maintenance/manufacturing). As the name says, they specialize in tank and covered hopper cars. Founded in 1866 by J. J. Vandergrift, in response to the economic activities of Standard Oil, the company has a long history. Today, Union Tank Car Company is owned by Marmon Holdings and remains a dominant tank car manufacturer and service provider. The tank car (#066 00 050) retails for $22.45.

A 57-foot 6-inch TOFC flat car is now available for CP Rail. CP 504484 is painted CP action red with a white large CP Rail logo, and white lettering. It was built in August 1978 at Marine Industries of Quebec, Canada and received its U-1 wheel inspection stencil in 1978. The star to the left of the load limit signifies that this car is not capable of carrying the maximum load permitted so the car won't be overloaded. This number cannot be changed except by the owner. The car runs on black roller bearing trucks and carries a 45-foot CP trailer decorated with the black, white, and red 'Pacman' logo. The flat car (#064 00 070) retails for $33.85.

A 40-foot standard boxcar with plug door and no roofwalk has been released bearing the portrait of our tenth president, John Tyler. It is the tenth car of a 44-car series representing each of the presidents of the United States. The roadnumber 1841-1845 represents the years he was in office. The car comes with a commemorative pin replicated from that era. Tyler held offices in both houses of the U.S. Congress, was Governor of Virginia, and served as U.S. Vice President as well as President. The one great achievement of his administration was the annexation of Texas. The boxcar (#074 00 110) retails for $23.95.

A 50-foot rib side boxcar with single door and no roofwalk is now available for Ashley Drew & Northern. It is painted green, with an aluminum roof, and white door. It bears a green and yellow logo, with a green stripe and lettering on the door, and white lettering on the car. The roadnumber is ADN 9684. It was built in July 1980 by Pacific Car & Foundry and runs on Barber Roller Bearing trucks. Ashley, Drew and Northern is a small short line in southern Arkansas and is owned by Georgia Pacific Corp. The ADN serves 12 mills that produce paper, building products, and chemicals derived from the southern pine trees, hence the slogan, 'Serves Southern Forests.' ADN has freight connections with Frisco and Union Pacific; cars are seen throughout the country. Principal items of traffic are pulpwood and paper products. ADN was to be abandoned with the last day of operations scheduled for June 29, 1996. The boxcar (#025 00 590) retails for $24.95.

Nn3

A 30-foot boxcar with single door has been released for Denver & Rio Grande Western. It is painted boxcar red with a white logo and lettering and is numbered D&RGW 3277. It was built in June 1924 by D&RGW's Alamosa shop, CO, was serviced in January 1946, and runs on Barber Coleman Arch Bar trucks. The Alamosa system of rebuilding resulted in an almost totally new car. The system consisted of a schedule of operations whereby crews of men moved from car to car (versus moving the cars on a track) for dismantling, sorting reclaiming and rebuilding. This was a result of tax benefits for rebuilding existing equipment. The boxcar (#800 00 120) retails for $19.20.

HOn3

A 30-foot log car is now available. It carries a varied log load, has brass tie-down chains, a peacock brakewheel, and runs on black Arch bar trucks. It is typical of the log cars used on standard gauge railroads across the United States. The log car (#865 00 040) retails for $31.65.

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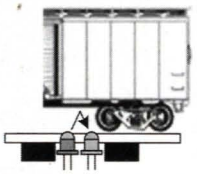

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REVIEW O

Lionel Releases New SD70ACe in Union Pacific Heritage Schemes

Review and Photos by David Otte

6-28261 Union Pacific – Missouri Pacific SD70ACe, MSRP: $449.99

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BETWEEN 2005 and 2006, the Union Pacific unveiled six new SD70ACe diesel-electric locomotives in special paint schemes commemorating the fallen flag railroads absorbed by the UP over the last two decades. Honored are the Missouri Pacific, Missouri-Kansas-Texas, Chicago & North Western, Western Pacific, Denver & Rio Grande Western, and Southern Pacific, each carrying a road-number matching the year they entered the merger. The locomotives carry their respective fallen flag's famous graphics and colors, producing some of the most eye-catching paint schemes railfans have experienced since the heydays of these once proud railroads. While bringing this splash of color to an industry that has become somewhat mundane in appearance in more recent years, the UP's efforts in displaying its heritage also brought to the forefront one of the most sophisticated and powerful locomotive designs on the market today, the Electro-Motive SD70ACe.

Recently, famous toy train maker Lionel introduced their interpretation of both the Electro-Motive powerhouse and the paint schemes of all six Heritage units. Once again this century-old company proves it still has what it takes to deliver a great-looking model with real play value.

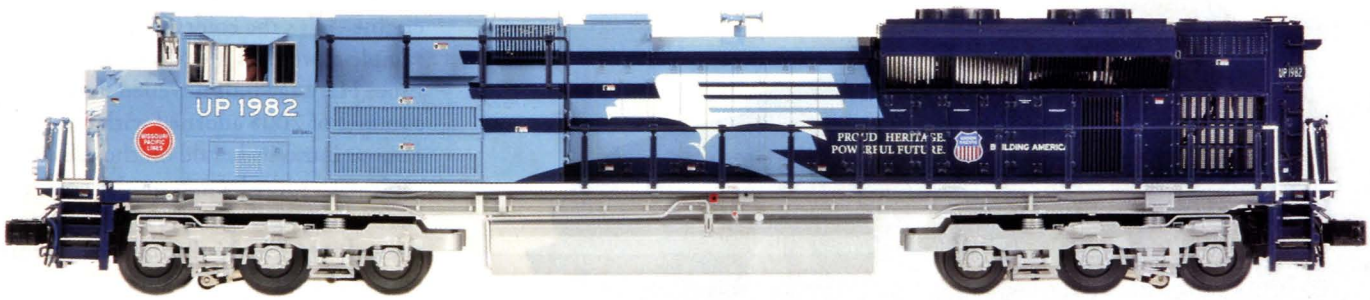
Electro-Motive's Environmentally Friendly Giant

Of course, unlike the model train manufacturers, Electro-Motive did not create the SD70ACe ("AC" for Alternating Current traction motors) to fulfill the desires of railfans; rather the locomotive was designed to do a job and to do it efficiently. The SD70ACe was born out of the necessity for railroads to meet stringent new government environmental guidelines. The Environmental Protection Agency's 2005 exhaust emission standards called for steep cuts in nitrogen oxide, hydrocarbon, carbon monoxide, and particulate-matter emissions. Both Electro-Motive and its main competitor General Electric set out to meet this new policy, known as Tier 2, back in 2002 – 2003; GE by designing a new prime mover and Electro-Motive choosing to upgrade its proven 710 power plant already at work in thousands of previously manufactured locomotives.

Designated the 16-710G3C-T2, Electro-Motive refined the original 16-cylinder 4,000 horsepower prime mover, increasing output by 300 horsepower along with a 50 percent reduction in nitrogen oxide emissions and better fuel efficiency. The Green prime mover along with the six model A3432 AC traction motors produces an impressive starting tractive effort of 191,000 pounds with a continuous rating of 157,000 pounds. Pretty good for a monster that stretches 74-feet 3-inches long over coupler pulling faces, towers 15-feet 10.5-inches high above the rails, and weighs 408,000 pounds. In fact, Electro-Motive states that three SD70ACes can replace five SD40-2s in high-tractive-effort operations.

The car body has also been designed to further decrease maintenance costs and down time. For example, electrical cabling has been routed externally down the left side of the frame beneath the walkway and air lines and other piping on the right side of the frame for easy access. There are new computer-controlled systems, based on the EM2000 microprocessor, that provide better on-board operations management and trouble-shooting assistance. A new cab arrangement has also been implemented doing away with the desktop style control panels, disliked by many crews, and a return to a modified AAR (Association of American Railroads) control stand with repositioned radio, display screens, full height collision posts, and expanded forward vision. Taken as a whole, Electro-Motive's SD70ACe puts crew comfort and safety at the forefront while offering

The unforgettable Lionel SD70ACe in UP Heritage attire. Not only is the O gauger getting a finely crafted scale-size model of Electro-Motive's latest design, but its prototypical decoration is a real work of art with each locomotive celebrating one of the six fallen flag railroads now working under the UP shield: Missouri Pacific (pictured here), Missouri-Kansas-Texas, Western Pacific, Denver & Rio Grande Western, Southern Pacific, and Chicago & North Western.



The carbody of the SD70ACe can be divided up as follows: from front to rear we have the crew cab with state of the art controls and the EM2000 microprocessor, directly behind it is the electrical cabinet housing all the high voltage equipment including the traction control inverters, followed by the No. 1 clean air compartment accommodating the blowers and air filters noted by the large inertial air intake grill at the top, then comes the long engine compartment containing the 16-cylinder 710G3C-T2, two-stroke, turbocharged prime mover, which is then followed by the radiator section with its flared radiator grilles and dual cooling fans, and finally the No. 2 clean air room with its large air intake at the base of the hood and dynamic brake fan on the roof. Lionel has captured all the details of the prototype right down to the three-axle HTCR radial trucks and massive 4,900 gallon fuel tank slung beneath the frame.

its owners an impressive 184-day maintenance interval.

While GE's equivalent AC version of its Evolution series has so far outsold Electro-Motive's new locomotives two-to-one, the SD70ACe is receiving good reviews from the railroads. Since SD70ACe demonstrators first hit the rails in 2004, well over 600 units have been ordered or delivered to railroads worldwide including: Burlington Northern Santa Fe, CSX, Mexico's Ferromex, Kansas City Southern, Montana Rail Link, UP, Ferrminera Orinoco in Venezuela, and Broken Hill Proprietary of Australia. A DC (Direct Current) traction motor version, referred to as the SD70M-2, is also being offered by EMD.

Lionel's 3-rail SD70ACe Heritage Units

When observing the UP's SD70ACe Heritage units, the old fairy tale "Beauty and the Beast" comes to mind. More than once have I heard from fellow modelers that the Electro-Motive locomotive is just plain ugly, but the classy historic paint jobs look great. I completely disagree with such viewpoints, as I think all the ins and outs of the SD70ACe's angular carbody makes it a very interesting-looking machine and I am pleased to see that Lionel has captured every aspect of the design in its O-gauge reproduction.

General measurements of the Lionel model matched published dimensions very well, save the overall wheelbase and length of fuel tank, both of which have been shortened slightly to enable the SD70ACe to negotiate tight tinplate curves. Discounting the oversized knuckle couplers, the locomotive stretches 17.5 inches long over its end platforms and weighs in at a hefty six pounds thanks to a stamped steel frame, sturdy ABS carbody, and diecast metal trucks, pilots, fuel tank, and couplers. Furthermore, all of these components displayed an excellent level of crisply molded-in details such as access doors, latches, hinges, vent louvers, grilles, and hatches all matching their counterparts on the prototype.

Separately applied details on this Lionel diesel easily meet today's O gauger's standards and then some. There are the expected wire handrails and metal stanchions, some two-dozen wire formed handholds running up and down the ends of the hoods, coupler cut bars, air hoses and Multiple Unit receptacles on the pilots, end platform safety chains, cab glazing, windshield wipers, hand painted crew figures, the proper five-chime air horn, handbrake wheel, and brake cylinders with piping added to the sideframes. Taking it up a notch, the manufacturer has also provided the model with add-on sand hatches, the rooftop-mounted antennae and GPS domes, metal lift rings, a snowplow mounted on the front pilot, and sunshades and wind deflectors positioned on the cab sides. Real standouts for me on this scale-sized replica are the metal screens visible behind the inertial air intake grille and the large air intakes situated at the end of the long hood, as well as the freely rotating blades seen in the radiator cooling fan housings and beneath the photo-etched dynamic brake fan grille. Even the platform steps have see-through perforations, and the cab

There's no shortage of details on the Lionel SD70ACe model. Just explore the cab area with its multitude of wire grab irons, sand filler caps on either side of the nose, window glazing and wipers, metal railing and stanchions with safety chain, snowplow, MU hoses, coupler lift bar, working headlight and ditch lights, see-through steps, raised tread plate pattern on end platform, the white Lexan covers protecting the radio and GPS antennas, the sunshades and positionable wind deflectors on the cab sides, and opening crew door in the nose.

Check out those flared radiator grilles. Remind you of anything? How about the old SD45 marketed by EMD three decades earlier! Also apparent in this view are the see-through metal screen behind the big square air intake in the lower end of the carbody and the large radiator and dynamic brake cooling fans on the roof with blades visible beneath the see-through shrouds. Note also the bracket (once planned for a possible rearward facing horn) on the end of the hood above the headlight and the single sand filler hatch on the roof near the dynamic brake fan. Both details are common on early production UP SD70ACes and correct for our number 1982. On later UP orders commencing in 2006, the body arrangement was changed, eliminating the bracket and making provisions for two sand filler hatches positioned lower on each side of the hood end.

and nose doors may be opened. Last, but not least, one can look straight through the radiator section of the carbody by way of the delicately recreated flared radiator grilles, a signature characteristic of the SD70ACes.

Yet, it is not all of these great details that immediately draws the model railroader's attention to the Lionel engine — it's the colorful decoration. Our sample represents the Missouri Pacific Lines Heritage unit unveiled during the summer of 2005 adorned with that road's famous buzzsaw herald on the cab sides, eagle with spread wings on the nose, and the Screaming Eagle across the engine room doors. The MoPac officially became part of the UP on December 22, 1982 as reflected by this unit's UP roadnumber "1982." The paint and graphics on this sample and on the other Heritage units I have seen at my local train shop are just outstanding in both quality and color reproduction. Providing an additional level of authenticity are the numerous warning placards dotting the carbody, which are fully readable under magnification, as is the white Electro-Motive builder's plate on the right side of the cab.

Operations with the Legacy Equipped SD70ACe

Beneath all the SD70ACe's minute details and fancy paint job lies what first appears to be a fairly standard O-gauge drive system. A precision can motor equipped with a flywheel is mounted to the gearbox of each truck with all the

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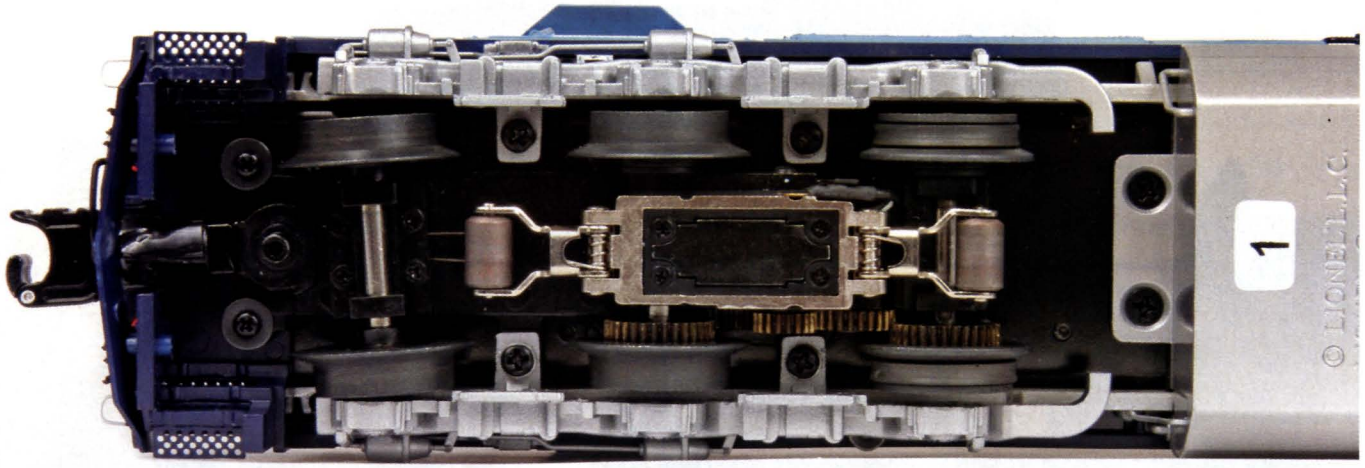

The 3-rail truck design is rather unique on the Lionel SD70ACe compared to most toy train three-axle designs, which usually have all wheel drive. In this case, only the two inside axles are powered, with metal gears I might add, leaving the outer most axles to pivot within the sideframes. This arrangement allows the rather lanky locomotive to maneuver through those tight tinplate O-31 diameter curves while maintaining all flanged drive wheels and the correct axle spacing of the prototype. Note also the two center-rail roller pickups, the traction tires on the inside axle wheels, and the oversized, but functioning ElectroCoupler.

electronic circuit boards for the command and sound system situated in between. What's unique to this model, however, is the truck design. Only the two inside axles are geared to the motors and only their wheels are used as outside rail electrical pickups; each truck is also outfitted with two center rail roller pickups. The unpowered lead axle of the front truck and trailing axle of the rear truck are designed to pivot inside the sideframes and actually help guide the locomotive through minimum O-31 diameter curves. This arrangement, along with previously mentioned dimensional alterations, allows all drive wheels to be realistically flanged while maintaining the proper wheelbase of each truck. In a sense, it mimics the radial steering HTCR trucks of the prototype, although to a much greater degree.

Traction tires located on the inside axle wheels of both trucks make this hefty diesel capable of pulling some long consists. At one point, I had almost three-dozen freight cars behind our sample on a level layout with minimum O-72 curves. Furthermore, with the aid of the onboard Odyssey speed control system, this brute will maintain speeds as low as 2 scale miles per hour and easily match the

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With the radiator housing easily removed, the operator has access to a number of manual controls that may be used during conventional or command operation. Present are two-way slide switches allowing the Odyssey II speed control, smoke unit, and sound to be turned on or off as well as a switch for placing the locomotive in programming mode (used for changing the locomotive's address). The silver knob located in the middle of these switches is for adjusting the volume while the battery harness and clip on the other side of the flywheel-equipped can motor accepts a 9-volt battery. The addition of the consumer supplied battery prevents the normally track powered RailSounds system from being interrupted when traveling over dirty sections of track and through turnouts.

prototype's high-end speed of 75 miles per hour — given you have a large enough pike and no fear of derailments!

The O gauger will also find the diesel-electric equipped with a fan driven exhaust unit, typical of most high-end 3-rail locomotives on the market today, and a directional lighting system. Add a few drops of the included smoke fluid, and you'll have voluminous amounts of simulated white diesel exhaust streaming from the stack in no time. Meanwhile, brightly lit forward and rear white headlights will illuminate your way down the track, a cab interior lamp accents the crew figures when the locomotive is idling, ditch lights flash when the horn is sounded, and blue tinted ground lights situated under the frame above the front trucks simulate those on the prototype, which give the crew a visual reference of their motion in relation to the ground during low lit or night time running. I don't believe I have ever seen this later detail depicted on an O-gauge model before and, although a minor detail in the scope of this offering, I'm thoroughly impressed with Lionel's inclusion of the lighting effect.

Overall operation of the Lionel SD70ACe though, can be summed up into one word: Legacy. Sure, the locomotive may be operated in conventional mode with a transformer as well as under TrainMaster Command Control, but it's with the Legacy Control System (reviewed in the September 2008 issue of *Model Railroad News*) that this diesel really comes to life. Accompanying the model is a memory module that provides the LCS's CAB-2 remote with all the particulars of the SD70ACe.

As soon as the operator hits the startup icon on the CAB-2, he knows he will be in for an audio treat. The prime mover sounds of this Lionel locomotive are superb, no doubt digitally recorded from the prototype. As you advance the throttle, the system will take you through eight levels of diesel motor RPMs. Whistle, mechanical bell, squealing brakes, coupler release, CrewTalk dialog, TowerCom announcements — all the favorites of the Lionel RailSounds library are here, too, along with a host of incidental sound effects. However, Legacy's greatest audio treat is the playable horn function that allows the operator to quill the horn by pulling down the Warning Sound slide controller on the CAB-2 in varying degrees. The effect not only offers the modeler the ability to follow actual railroad signal practices, but to create their own signature horn sounds too.

Finally, when it's time to call it a day and leave your consist on a siding and head the SD70ACe back to the engine house, simply activate the front or rear coupler via the buttons on the remote. Lionel ElectroCouplers allow you the choice to uncouple anywhere on the layout.

An Unforgettable Locomotive

We've certainly seen our share of 3-rail O-gauge diesel locomotives over the years with some more memorable than others. However, the super detail, the electrifying paint schemes, the operating freedom realized through Legacy, and the rich prototypical sounds of these new Lionel SD70ACe Heritage units all add up, making them quite unforgettable. So see and hear them for yourself at your local Lionel dealer today, before they, like the fallen flag roads they celebrate, become just a wonderful memory.

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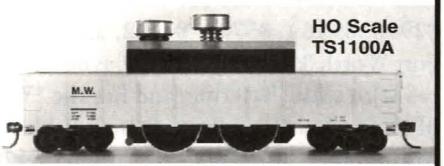

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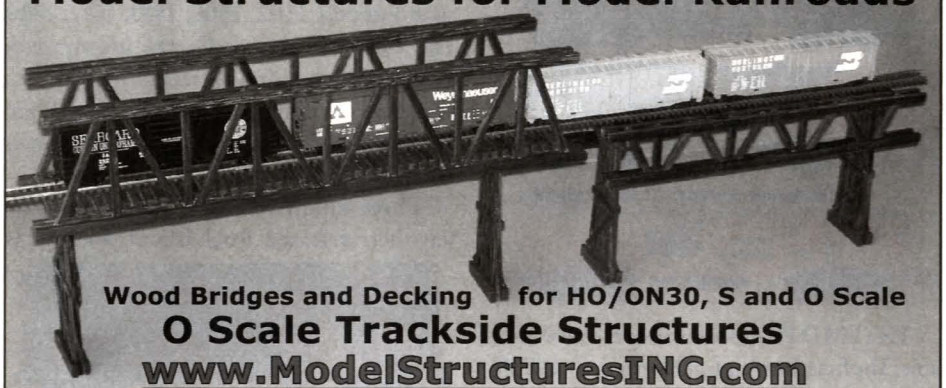

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EMD FP7s Barrel into Hobby Shops

N — Intermountain has released five new EMD FP7 locomotives, and three modified AAR 40-foot boxcars.

Five EMD FP7 locomotives are now available. The first, Burlington Northern (#69958) is painted green with the BN herald on both sides in white. It is available for roadnumber 726. Seaboard Cost Line (#69959) is decorated black with yellow stripes. The lettering is gray, and the number boards are white. It is available for numbers 318, 325, and 331. Rock Island (#69960) is painted maroon and yellow, with white lettering. It is available for numbers 402, 403, and 409. N DE M (#69961) is decorated for Ferrocarriles Nacionales De Mexico in dark green and red, divided evenly down the sides with a yellow stripe on the sill. It is available in roadnumbers 6300, 6302, 6303, and 6305. Ontario Northland (#69962) is bright yellow. The nose has two different shades of blue, light and dark, and the roof is dark blue. The lettering is all dark blue. It is available for roadnumbers 1502, 1509, 1510, 1517, 1520, and 1521. The details for the locomotives include wire handrails, etched metal grilles, and Micro-Trains couplers. The drives are DC- and DCC-compatible. The locomotives retail for $119.95.

Three modified AAR 40-foot boxcars have been released. Rock Island (#65804) is

painted mineral red with a black and white herald. It is available for roadnumbers 148553, 148594, 148627, 148682, 148705, and 148791. Chicago & Northwestern (#65808) is painted mineral brown with white lettering and black ends. One side of the car shows "The Overland Route" slogan, while the other side has the "Route of the 400." It is available for numbers 82660, 82998, 83464, 83706, 84182, and 84250. Fort Worth & Denver (#65809) is decorated red with white lettering, and has the "Way of the Zephyrs" logo on it. It is available for roadnumbers 8072, 8149, 8275, 8365, 8428, and 8500. The cars are fully assembled with fine details, and Micro-Trains trucks and couplers. The boxcars retail for $19.95.

Intermountain Railway Co., P.O. Box 839, Longmont, CO 80502-0839; 303-772-1901; Fax: 303-772-8534; E-mail: intermountain@intermountain-railway.com; www.intermountain-railway.com

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S — S Helper Service has released the NW2 diesel switcher with six paint schemes. Paint schemes are available for the following roadnames: AT&SF, painted black with white silver zebra stripes in two numbers; PRR Tuscan, in Brunswick green, with one number in each color; CB&Q in Chinese red, or black and gray, with one number in each color; and black, unlettered.

The Ready-to-Run, DCC-ready model features golden white LED single barrel lens headlights; fitted 8 Ohm speaker; full cab interior, two-man crew and cab lights, body details that include Delrin side handrails, music wire drop hand grabs, and Bronze EMD builder plates; rugged ABS plastic body, five-pole can motor, diecast metal gear boxes and frame; blackened AF compatible metal wheels and operating couplers; and replacement 110 NMRA RP-25 metal wheelsets, and a pair of #01295 Kadee style couplers.

The model is available with three power options: AC/DC without sound for $199.95; fitted DCC decoder – Lenz Silver JST – MP for $299.95; fitted SoundTrax "Tsunami" DCC/DC sound decoder for $299.95; and fitted LocoMatic AC/DC sound decoder for $299.95. All models include an NMRA DC shorting plug. The company is planning more roadnames in future releases.

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This is the left side of the crummy with the hardware installed on the roof. On the end, just to the left of the door and then the collision posts. I can only imagine the fun of painting this area and the bay ends orange! Between the post bars that go up vertically is a horizontal bar, bent to match the roof peak. This is not on the prototype but is necessary for efficient assembly. If you wish, you could trim that bar off and glue the top ends to the roof overhang.

THE mighty Southern Pacific Railroad used cabooses right up to the end of the eighties. The C-50s comprised eight classes, -2 to -9, and the C-50-9s would be the last batch of cabooses bought by the railroad. From March to May 1980, PACCAR delivered 75 new bay window cabooses. These were, in many cases, just a general upgrade to the previous C-50 classes.

By the emergence of the C-50, the bay window caboose on the Southern Pacific had reached its zenith. If the C-50-2 had ladders and roofwalks, those would disappear soon enough. By 1984, a large number of the earlier C-50s would have their non-bay windows blanked, due to vandalism. To box the roof ends or not had been settled in favor of no boxing. The radio disk plate antenna was mounted on the front half, the smoke jack was mounted on the rear half, and the single marker light was in the center, front-to-back. With the exception of the bay windows, the C-50-9 cabooses were delivered without any side windows at all.

The battery box was on the right side, under the bay window, and the truck-mounted generator was on the rear axle of the front truck on that side, closest to the batteries. Without those spotting signs, the car was basically double-ended. The couplers were cushion-mounted, extending them considerably beyond the end sill striker at 38-feet 11-inches from one end to the other. When compared against coupler pulling faces, there was little change in length between the C-50-2 and the final C-50-9.

SP painted them boxcar red (which looks like a chocolate brown) with orange car and bay ends. Handrails were painted white, and the lettering was white, as well. The words "Southern Pacific" were done in a plain, sans-serif face while the reporting marks and the road number were in SP's serif typeface. No longer the home of some particular conductor, each caboose was appointed in spartan furnishings and plain colors.

MTL's C-50-9

The "50" in the class name refers to the fifty-ton trucks, the first to be applied to cabooses and found on all members of the C-50 classes. From those trucks to the roof, our sample is a good representation of the prototype.

The radio antenna is to the front, the smoke jack is to the rear, so this is the right side of the car. The large battery box hangs down below the bay window, and the pulley system for the battery charger is on the rear axle of the front truck. By this point in time, SP had eliminated all side windows that weren't part of the bay.

MTL has taken the time and effort to model some very specific items that take this model from good to outstanding. Specifically, they found the correct truck and proper location for the axle-driven generator. On either side of both front and rear doors are the protruding collision posts that helped to protect crewmen in a wreck and also provided enhanced security for the car when it wasn't attended.

They also have a fuel fill for the internal fuel tank located on the rear carbody end, just left of the door but not on the front. Perfect! The handrails are as thin as could be allowed without making them as delicate as spider webs. The underside features all of the hardware and plumbing as they are found on published drawings. The large battery box hangs under the right side bay window, right where it belongs. Handwheel and rigging are the best I've seen in N-scale.

Measurement across the ends of the car come to 38.67 scale feet as opposed to the drawing's 38.92, a grand total of about 3 scale inches, nothing that you can see without a caliper. The truck center measurement is harder to nail down, but is very close to right on. By my caliper, I found the width of the car across the bay windows just a negligible 0.022 actual inches wider. Since I haven't found any measurements worth complaining about and the others are even closer, I gave up measurement for enjoyment.

The smoke jack comes installed, but you have the option of putting on separate jack side braces, single light roof fixture, and flat disk antenna. On rare occasions, a caboose in this series might be found with the marker lights moved to the ends of the car and no roof fixture, but they never operated without a standard radio antenna.

These add-on parts are supplied on an etched brass sheet, smaller than a postage stamp. The modeler must carefully nip each item from the brass plate sprue. Then the antenna base must be bent to form the tripod, and the disk-shaped ground plane has a slot that engages the top of the tripod. These items will be glued with CA, painted, and then mounted to the roof. A placement diagram helps you correctly locate each detail piece.

A similar process is involved in constructing, painting, and installing

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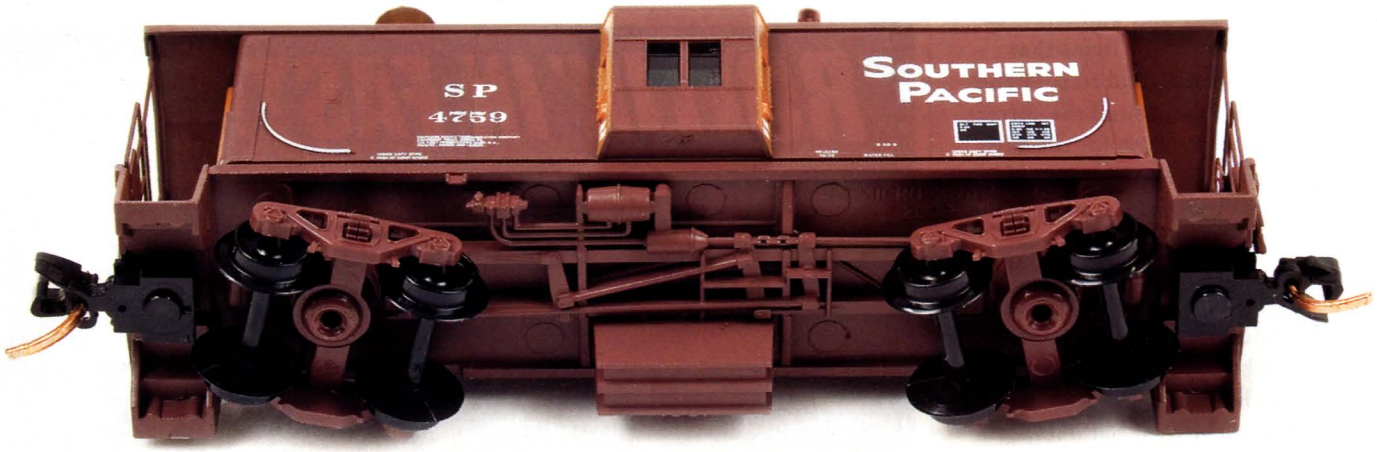


Let's get a look underneath this bad boy. Notice the wealth of detail. The couplers are body-mounted, helping the caboose behave better, especially when being pushed.

the marker light fixture and the smoke jack braces. The result of this delicate work is well worth it. Micro-Trains includes a small direction sheet with drawings to show how the pieces are formed and assembled, along with the placement diagram.

A first on this caboose is an accurate rendering of the Southern Pacific truck-mounted generator, which is observable as a result of the pulley on the end of the rear axle on the front truck, located on the right side, near to the battery box. The batteries supplied the radio, lights, refrigerator, and other needs while also acting as a current-leveling reservoir. Without having to resort to a small engine-powered generator, this system let the motion of the train power the car and charge the batteries. Because the trucks are produced from engineering plastic, they won't hold the blue paint that SP painted the pulleys.

What is the potential for extending this caboose from the SP C-50-9 to other roadnames? While all bay window cabooses are similar to a degree, their differences are manifest. A C-50 won't pass very well for a C-40 and even less like a C-30. While the Cotton Belt was an SP subsidiary and you could paint one up as a C-50-5, which was found in both SP and SSW, the extra side windows, the boxed roof ends, and the four-door battery box do place additional demands.

However, Micro-Trains is also offering this same basic caboose in Conrail blue. This one is Conrail class N-5H, which started life in 1946 on the Southern Railway before ending up on Conrail. This would also be after a shopping in around 1977 when the ladders and roofwalks were removed, making it remarkably like the basic caboose model. This one is easier to paint and doesn't require extra roof details, so it has a lower price point.

This right-rear angle reveals the placement of roof details. This is an exceedingly hard paint job to do right, but MTL has gotten it done! By the C-50-9, the roof was painted the same color as the rest of the carbody. The etched brass detail sheet is shown, not to scale.

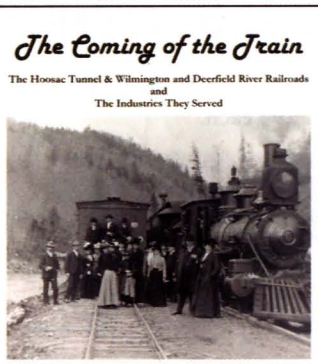
Operation

Of course we start with Micro-Trains' trucks and couplers, and that's always a good thing. The couplers are body mounted at the perfect height just as the wheel sets are all in gauge. This is a freewheeling little rascal, so be careful where you park it; it may be gone when you get back!

At 0.6 ounce, the weight is mounted low for good stability. NMRA suggests 0.5 ounces base plus 0.15 ounces per inch of car body. Across the ends of this car is about 2.8 inches which we would multiply times 0.15 and then add 0.5, arriving at 0.92. If we use the true car-body, leaving off the platforms at either end, we have 2.3 inches which comes to something over 0.84 ounces. However, we don't want to add unnecessary weight onto the end of our trains, and six-tenths of an ounce seems appropriate, in part because the car does what good cabooses should do: Follow well.

In Closing

So the really good news on the modeling front is the high degree of adherence to the prototype. From this beginning, Micro-Trains Line is creating a new class of cabooses that are very road specific, and I think this is what N-scalers want. Having it offered in both West Coast and East Coast versions is sure to please modelers and collectors from coast-to-coast.



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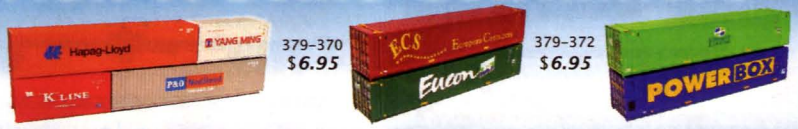

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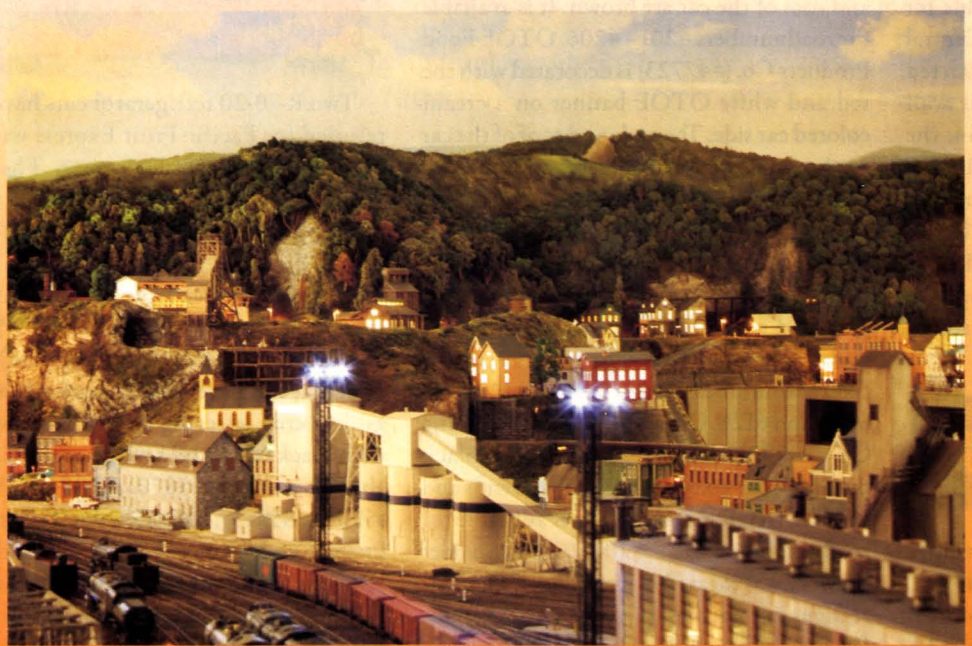
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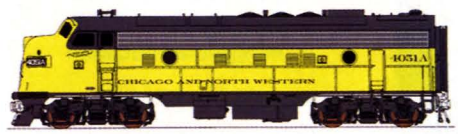
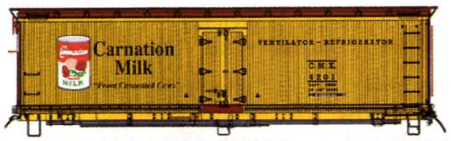
New R-70-20 refrigerator cars in several schemes

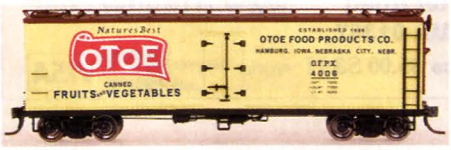
HO — Intermountain has released new EMD FP9 & F9B locomotives, five wood refrigerator cars, and six R-70-20 refrigerator cars.

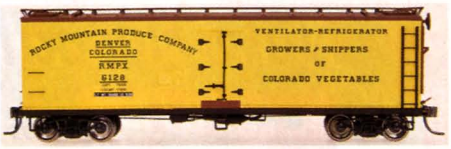
Three EMD FP9 and F9B locomotives have been released. Canadian National (#49988 & #49588) is painted black with wide, white stripes on the sides and a red nose on the A-unit. The A-unit is available for roadnumbers 6524, 6525, 6530, and 6431; the B-unit is available for 6622, 6625, 6629, and 6630. Canadian Pacific (#49989 & #49589) is painted bright red with the diagonal white stripes on the ends. The A-unit is available for numbers 1406, 1409, 1411, and 1414; the B-unit is available for 1900, 1901, 1902, and 1904. Algoma Central (#49991 & #49591) is painted silver with red, yellow, and gray stripes. The A-unit is available for roadnumbers 1752, and 1754; the B-unit is available for number 1761. The models come equipped with wire handrails, cab interior, etched metal grilles, and Kadee couplers. The A-units retail for $129.95 without sound, or $199.95 with sound, and the B-units retail for $94.95 without sound, or $164.95 with sound.

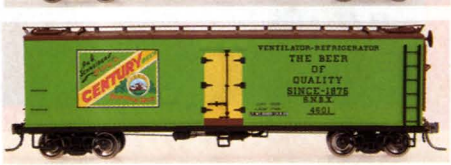


An EMD FP9 locomotive has been released for Chicago & Northwestern (#49992). It is painted yellow with a green roof. It is available in roadnumbers 4051A, 4052A, 4053A, and 4054A. The model comes equipped with wire handrails, cab interior, etched metal grilles, and Kadee couplers. The drive is available either as DCC-ready with 8-pin NMRA compatible socket on the PC board, or with a QSI system that will operate on DC or DCC. It retails for $129.95 without sound, or $199.95 with sound.









Five wood refrigerator cars are now available. Carnation Milk (#47722) is painted yellow with a large red, white, and green Carnation can painted on the left. The ends and roof of the car are brown. It is available for roadnumbers 4201– 4206. OTOE Food Products Co. (#47723) is decorated with the red and white OTOE banner on a cream-colored car side. The ends and roof of the car are brown. This car operates in Iowa and Nebraska. It is available for roadnumbers 4001, 4002, 4005, 4006, 4008, and 4010. Rocky Mountain Produce Company (#47724) has yellow sides, freight car brown ends and roof, and black lettering. Denver was the base for this company. It is available for roadnumbers 6104, 6107, 6112, 6119, 6123, and 6128. Onalaska Pickle & Canning Co. (#47725) has yellow sides with black-outlined rose-colored lettering. The ends and roof are freight car brown. It is available for roadnumbers 8200 – 8202. P.H. Schneider brewery was located in Trinidad, CO. Their refrigerator car has apple green sides with freight car brown roof and ends. The side door is yellow. The multi-colored Century Beer logo is on the left. It is available for roadnumbers 4600 – 4603. The models are equipped with laser-cut wood roof walks, metal wheelsets, and Kadee couplers. They retail for $29.95 each.

Two R-70-20 refrigerator cars have been released for Pacific Fruit Express with the Keystone roof and cushion underframe. The early roof (#48801) is the last mechanical refrigerator car purchased by PFE. It has PFE yellow sides, black ends, and a white roof. It is available for roadnumbers 457607, 457632, 457718, 457870, 457901, and 458055. The late roof (#48803) was the third lot purchased by PFE and lettered R-70-21. The car has PFE yellow sides, black ends, and a white roof. It is available for roadnumbers 458103, 458249, 458375, 458534, 458495, and 458600. The models include etched metal details, wire details, 33-inch diameter metal wheelsets, and Kadee #78 scale size couplers. They retail for $32.95 each.

Two R-70-20 refrigerator cars have been released for Pacific Fruit Express with the Hydra-Cushion underframes. The early roof (#48802) was owned by the SP, which favored the Hydra-Cushion system. The car has PFE yellow sides, black ends, and a white roof. It is available for roadnumbers 457059, 457124, 457196, 457263, 457302, and 457489. The late roof (#48804) has a different size of reporting marks. It has the as-delivered lettering on PFE yellow sides, with black ends, and a white roof. It is available for numbers 458701, 458842, 458996, 459068, 459137, and 459294. The models include etched metal details, wire details, 33-inch diameter metal wheelsets, and Kadee #78 scale size couplers. They retail for $32.95 each.

Four R-70-20 refrigerator cars are now available. UPFE (#48805) served the Union Pacific upon the break up of PFE. The model is decorated in Armor yellow, with

the large red, white, and blue UP shield on the left. The ends are also yellow, and the roof is white. It is available for roadnumbers 457651, 457725, 457695, 457753, 457782, and 457921. BNSF (#48806) also purchased the refrigerator car; and the cars continue to serve BNSF and Western Fruit Express. The model is painted BNSF mineral red with a white roof. The letting is white, and the Safety slogan lettering is yellow. It is available for number 799341, 799413, 799426, 799336, 799416, and 799457. SPFE (#48807) was formed by Southern Pacific upon the break up of PFE. Note that the new reporting marks are now white. The car has PFE yellow sides and ends, and a white roof. It is available for numbers 458702, 458726, 458859, 459041, 459273, and 459298. VCY (#48808) has dark blue sides and ends, the lettering is yellow. The class markings are R-70-24. Many of the SPFE cars went into Golden West Services. It is available for roadnumbers 25025, 25078, 25126, 25130, 25162, and 25187. The models include etched metal details, wire details, 33-inch diameter metal wheelsets, and Kadee #78 scale size couplers. They retail for $32.95 each.

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IN June 1976, railroading was well into the second generation of diesels, Alco and the other small-count builders were gone, and all that remained was EMD and GE. The challenge was not each other; it was the ocean of first-gen road switchers that railroad shops and loco remanufacturers wanted to rebuild. Congress had given the railroads a capital rebuilding deduction so that they could treat a rebuild almost like a new loco. EMD thought: why don't we offer a new loco that's almost like a rebuild?

The recipe is simple. Take an old Geep and trade it in. EMD would start with a new frame and body, putting it on the old trucks, using the old alternator, but giving it a new engine. This would be a Roots-blown 645E V-12 engine producing the same 1,500 horses as the V-16 it replaced but with a third fewer moving parts and improved fuel mileage. If the railroad turned in its old Geep, the price for the new loco was about equal to a capital rebuild on the old Geep.

Only what you had was mostly a new locomotive. It looked as though it was the baby brother to the SD40T-2 "Tunnel Motor" thanks to its radiator intake, but that's only a mistaken impression. It is a closer relative to the MP15AC, only equipped with a road cab and a short nose into which they put a toilet and some collision protection. It also offered an anticlimber that the original Geep didn't have. The Dash One designation meant that it was equipped with the older-style contactors and didn't have Dash Two electronics.

The radiator section was borrowed almost extant from the MP15 line of end cab switchers where it solved the problem of drawing air through the end panel that was then stifled by the presence of a large boxcar coupled to the engine. The side intake and top exhaust resolved that issue. Three main variants of the GP15 appeared between June 1976 and April 1983: the GP15-1, GP15AC, and the GP15T. The "T" used a turbocharged V-8 645 engine to get its 1,500 horses and saw 25 copies go to the C&O while three went to the Apalachicola Northern. All 30 of the ACs went to MoPac who also bought 160 of the Dash Ones. The next greatest purchase of the Dash One was Conrail with an even hundred copies. Finally, both SLSF "Frisco" and the North Western took 25 units. The total number of GP15 types sold was 368.

Walther's Trainline becomes a P1K

We who have owned the legion of Trainline locos have found pretty good running pullers and rather primitive models that begged for some superdetail-

Here's a pair of economy pullers with an interesting story in common. Both of these machines started off life on the North Western. CNW 4409 ended up on UP as UPY 553, while 4419 became CNFR 108.

By-The-Numbers

GP15-1 Cal Northern
Walthers, Inc
HO 1:87 • Type: Diesel
Traction Tires? No

Pull Power (Ozs @ Full Slip)

Pull	÷ Loco Wt	= Efficiency
2.9	12.7	22.8%
Volts	Amps	
14	0.21	

Analog DC

Start Volts = 8.2

Volts	Amps	Scale MPH
8.2	0.08	0.1
10.0	0.18	23.5
12.0	0.23	32.0

DCC

Stall Amps = 0.72

Speed	Step (of 128)	Scale MPH
Min	1%	0.1
Mid	50%	49.0
Top	99%	100.0

By-The-Numbers

GP15-1 C&NW
Walthers, Inc
HO 1:87 • Type: Diesel
Traction Tires? No

Pull Power (Ozs @ Full Slip)

Pull	÷ Loco Wt	= Efficiency
2.6	12.6	20.6%
Volts	Amps	
14	0.21	

Analog DC

Start Volts = 8.1

Volts	Amps	Scale MPH
8.1	0.08	0.1
10.0	0.18	18.0
12.0	0.23	31.0

DCC

Stall Amps = 0.77

Speed	Step (of 128)	Scale MPH
Min	1%	0.1
Mid	50%	49.0
Top	99%	97.0

ing. Much of that is true for this updated Proto 1000 version. The moldwork is crisp and the painting is both sharp and accurate, the masking is clean. The louver work is correct and well done, though don't expect the intake grilles to show through to the other side. That would take a step-over internal weigh chassis, something that would reduce pull and increase the price. As an alternative, use some black chalk with a soft brush on these grilles to build the shadow around the grille, wiping off the excess.

We have the Chicago & North Western's number 4409 and the California Northern #108. Number 4409 went to UP Yards as their number 548 while North Western's #4419 went to be California Northern's 108. In all, fourteen of C&NW's GP15-1s went to live in Northern California while 10 of them went to UP directly, and three of the CFNR's units also were sold to UP which still operates 160 of them to this day. On the Cal Northern, who operates ten, you'll find sunshades are sporadic and are not found on 108. The prototype does, however, have a flowerbox window on the engineer's side window. Like most of the roster, it also has silver trucks, which leads to another observation.

I really like the sideframes on these models. Most of the GP15s rode on turned-in Blomberg B trucks, though a few of the MoPacs sat on Blomberg Ms. Not only has Walthers modeled the truck side frames well, they have also imposed a fine-grained matte finish on them. This does away with the shiny Delrin sideframes we have come to dislike. At some point, I'll try painting them with aluminum paint and see how that holds up.

In terms of adding details, there are drill marks to show where to drill holes for hand grabs, should you decide to empty out your stapler and go to it. North Western often ran theirs with flowerbox right windows and shades on the left side. If you like superdetailing, you can add sandfillers, a red MU connector, and MU hoses, none of which is included with the loco. Front and rear plows are included but not installed. Under the plow are the base plates with the hose boxes at the bottom. Most noticeably missing from this model is the "nose gong," which is rather like a flat fire alarm bell mounted on the nose, where the nose headlight might be. Only the C&NW units had it, and they continued on into the Cal Northern service. I've seen a couple of photos showing UPY 548, 550, and 554 still wearing the nose gong, almost

Here's the back end of these two dandy pullers. The hose box pilots are just right for this model. While there's a tendency to think of these beasties as mini-Tunnel Motors, it's more a case of them being the road version of the MP15. The LEDs are both directional and warm white.

enough evidence to warrant its own run. Installing one as an aftermarket detail should prove entertaining.

The bottom line on the outward modeling came from Allen McClelland, creator of the famous Virginian & Ohio Railroad. He thought of models as being "foreground" and "background" and assigned them accordingly. He postulated that a train in motion couldn't be studied for detail, so a highly detailed model was a sort of waste of money unless you parked it where everyone could study it. This is a pair of lovely background models that can be pulled into the foreground with the addition of parts.

Operation of the new P1K updated GP15-1

Under the hood is a whole new locomotive. At the bottom are the new helical-geared trucks for superior operation with unprecedented quietness. These trucks are driven by a 5-pole, skew-wound motor with dual flywheels driving all eight wheels which all pick up power. Looking for consistency, I chose to run them just as they come out of the box in pure DC mode before installing decoders.

Just to clarify things, the DC testing is very important for two reasons. First, the majority of model railroaders are still using straight, track-power DC. I often have DC run days and enjoy myself thoroughly, so I want to report how this model does in a straight, analog DC setting. The other reason for DC testing is to find out about the basic model. I can hear the machinery—or not—telling me about the quality of construction. I can also determine how the basic unit performs.

While the starting voltage in DC is rather high at around eight volts, the locomotive crawls so slowly you have to look close to see it. How about from the beginning of a crosstie to the beginning of the next, about 0.3165 inches taking over 35 seconds? That works out to less than 0.1 scale miles per hour. Top speed in DC is rather slow at just above 30 smph.

Installing DCC

Still, what I learned from the DC testing was that this was a stellar runner, especially at low speed, so I probably wouldn't need Back EMF to get good low speed performance. I chose to install the venerable economy Digitrax DH123, taking advantage of its JST socket to mate with the built-in JST plug on the loco's light board.

Getting into the GP15-1 requires removal of the couplers, and that involves the complete dismantling of them, and so you will be reassembling them around the pilot. There are also two screws in each end that must be removed to release the shell. After that, it comes off easily, but only as far as the tether to the headlight in the shell. Two screws are removed to free the dummy plug in the far rear of the loco. Carefully unplug the dummy plug and replace it with the DH123 and you can then locate the decoder under the headlight wires where it will sit just fine.

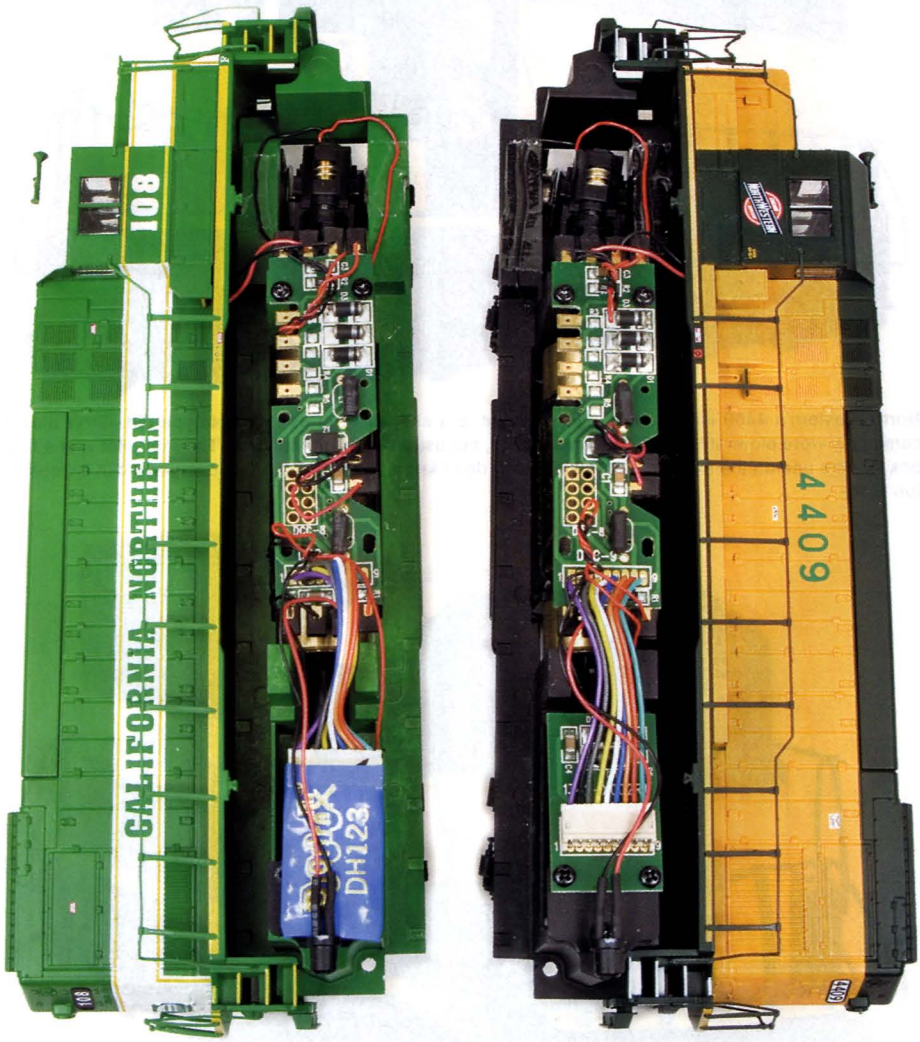
I snapped the shells on and went to visit the JMRI test track. Each loco would make a couple of trips here. By setting the roadnumber into the address of the decoder, I also tested the installation for shorts. It all worked well with one small exception. The loco is wired backwards. When powered up on the DCC layout, it runs in reverse of what it should. Both of

North Western's 4409 isn't wearing her plow yet, but she will, just as the prototype did. CNW diesels commonly wore plows if they worked on the road, but usually only on the nose. The rear pilot was a hose box like the one on the front pilot of this model. I don't know how to hack on a nose gong, but it would be fun to try.

Dressed in Kelly Green, CFNR's 108 goes to work every day. The model's ready to work for you, right out of the box. If you choose to add a decoder, that's pretty easy. If you want to do some modeling by adding lots of special details, go for it!

Notice how close they couple? The metal Proto Max couplers are much better than any plastic coupler, and the anti-climbers hang out over the couplers.

While the radiator intake vents are see-through on the prototype, they are molded-on with these models. A bit of black weathering on them would help.



Here's the works of both locos. The CNFR unit on the left already has its DH123 in place, and the shell will go right back on. The CNW unit needs to have its factory JST plug pulled out of the dummy board socket after the two mounting screws are removed. The decoder's socket receives the plug and that's it!

them were this way, and the headlights matched the direction of travel, so it was more than the motor leads being reversed. However, back on Decoder Pro, I set the normal direction of travel to "reverse" and all worked well.

If you were bothered by the slow speed of the DC side, the DCC had no such problem. Both locos ran between 97 and 100 scale miles per hour at full throttle, a good deal faster than a real-life GP15. The mid speed was more like 49 smph, way too fast. I set both locos to 60 percent of the top speed, which is about 160 on a scale of 255. Then I set the mid-volts to half of that, 80 on the same scale of 255. The results were locos that turned right at 60 smph at full throttle and between 26 and 28 at mid-speed. I put a momentum of 5 into both up and down and then turned on the "Switching Speed" option up in the Digitrax Special items.

Wow! What a couple of sweethearts! The momentum is quite good for handling road trains, and when you select the Switching Mode by pressing F6, the DH123 gives you around a third the speed for the same throttle setting while it also reduces the momentum to about a fourth of usual. For a bargain decoder, this is sure a good match for these two Trainline upgrades. I even put the pair of them on the head of a fifty-car train of forty-footers, and they just walked off with it. With a combined pull of some 5.5 ounces, that isn't surprising.

A nimble-footed success

The GP15 is a short loco, a foot less length than the GP7 that donated so many of its parts. This made it very popular in railyards everywhere. It had better tracking than shorter yard switcher models and often worked in pairs, taking up a minimum of space. These models capture the sure-footed properties of the prototype and bring a welcome modernization to an old Trainline friend. Economy plus quality equals a bargain in my book.

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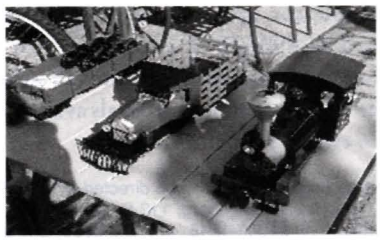

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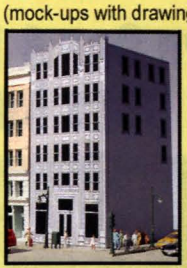

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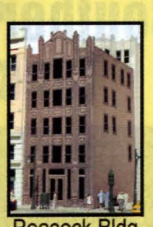

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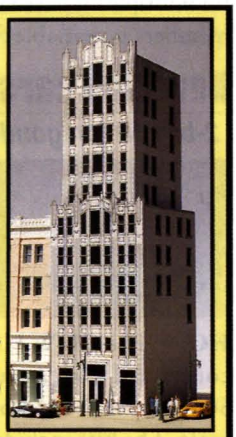

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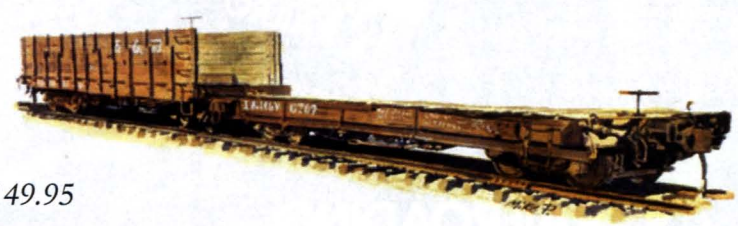

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Club joins with Accurail to raise funds for a new roof

HO — The West Central Model Railroad is selling a custom decorated gondola kit as part of a fundraising project to help replace the aging roof on their building and possibly help fund other major building maintenance and improvement projects.

The cars are priced at $13.00 for one kit, $12.50 each for 6 to 11 kits, and $12.00 each for 12 or more kits, with shipping and handling extra. Shipping and handling is $3.00 for the first kit plus $1.00 for each additional kit with a maximum charge of $13.00. Renumber decals will be included for multiple kit purchases. Assembly by club members is available for $4.00 per kit and uses the included Accumate couplers and plastic wheels.

A posting on the club web site states: "This is our first attempt at selling custom decorated model kits and the success of this project will, hopefully, result in more custom decorated offerings from our club."

The kit, Accurail's model 3700, is based on an AAR 41-foot steel gondola. These gondolas were very common during the early part of the 20th century on every American railroad. The cars are custom decorated in two styles for the Milwaukee Road. The #82078 is based on a war emergency hopper with CMStP&P lettering and has a 1923 build date with a 1956 re-shop date for modern use. There are renumber decals available for up to twelve 82000 series cars. The #93026 is a standard post war Milwaukee Road gondola with a 1946 build date. There are renumber decals available for up to twelve 93000-series cars.

Questions and orders can be directed to: WCMRR c/o Henry Bangsberg, 112 S. Clark, West Salem, WI 54669-1548, 414-477-8350, E-mail: wcmrr@hotmail.com, www.westcentralrr.org

New club cars from CNWHS

2-bay 50 ton gondola kits available

HO — The CNW Historical Society has contracted with Accurail to produce two 50 ton open 2-bay hopper car kits in HO scale. The kits include Accumate couplers and Accurail plastic trucks. The hoppers were probably not used in interchange service. The CNWHS is offering the cars for $16.00 each or $30.00 for the pair. Shipping is $5.00 per order.

In early 1959, Fort Dodge Des Moines & Southern purchased eight former Louisville & Nashville 50-ton open 2-bay hopper cars for gravel and ballast service. The cars were repainted in oxide red with a stenciled white company logo and lettering. They were assigned numbers 13 through 20 and marked for "Company Material Only."

CNWHS, P.O. Box 1068, North Riverside, IL 60546-0468; 630-254-6826; E-mail: cnwhs@cnwhs.org; www.cnwhs.org

Southern Car & Foundry's Standard Tank Cars have left the depot

HO — Southern Car & Foundry, a Central Florida based manufacturing firm, has released a new Standard Tank Car Co. (STC) two compartment/two dome tank car lettered for GATX 1638 (#2001), and a 6 Course Radial Tank Car lettered for Spencer Kellogg (#2000). The HO-scale resin kits consist of a one-piece cast frame, one-piece cast running board, a tank cast in two pieces, etched stirrup step, and Kadee #78 couplers. Both of these kits retail for $49.00 each, with a shipping cost of $7.50 for up to three kits.

According to the company, these models are based on the STC's design for tanks and underframes, produced between 1916 and 1928, including cars for export to other countries. By the time the last STC tank car was delivered in 1928, thousands of them were in revenue service all over North America. Well designed and stoutly constructed, they continued to serve their owners through the 1930s and World War II. Most survived in the 1950s, and many lasted into the 1960s, remaining a prominent part of the railroad scene for several decades after the company that produced them ceased to exist.

Southern Car & Foundry, 970 Sunshine Lane Ste. D, Altamonte Springs, FL 32714; 407-389-3100; Fax: 407-389-3101; E-mail: jscagle@msn.com; www.southerncarandfoundry.com

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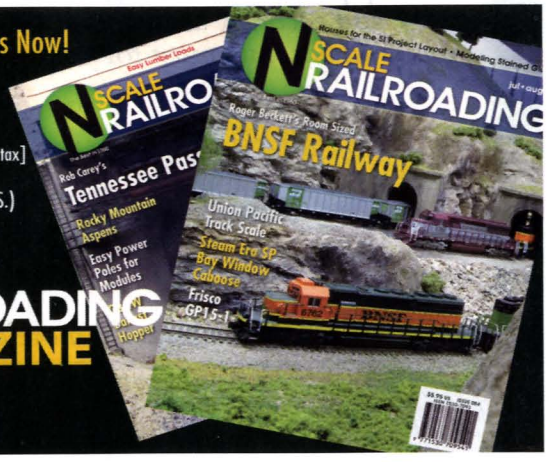

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Canadian FP9A to be the first True North Locomotives release from Rapido Trains Inc.

Rapido's first True North Locomotive, a line dedicated to Canadian-specific prototypes, will be the FP9A. The HO-scale model is expected to be available in December of this year. Sound-equipped versions will have accurate CN sounds. Prototype photo courtesy of Rapido Trains, Inc.

HO — Rapido Trains Inc. has announced a new product line — True North Locomotives — a line of Canadian-specific locomotive models featuring all-Canadian details. The first True North Locomotives release will be the GMDD Canadian National-VIA Rail Canada FP9A, expected this December. The models will feature all-new tooling based on the unique Canadian prototype and will retail for $169.95 in DC and for $299.95 for DC/DCC/Sound versions.

The new Canadian National - VIA Rail Canada FP9A will feature: DC/DCC with Sound (DC-only version also available); 5-pole, skew-wound can motor and smooth-running mechanism; roadnumber and era-specific details for CN and VIA applied at the factory, including different grab iron arrangements, winterization hatch style, cooling pipe style, headlight style, and nose details; correct fuel tank, end door, and other CN-specific details; see-through fans; separate underbody air and steam piping and rerailers; metal MacDonald-Cartier Knuckle Couplers mounted at correct height; operational headlight and user-applied ditch lights; and operational class lights and backup light (DCC).

According to Rapido, the DC-only version will be DCC-ready; sound-equipped versions will have accurate CN sounds including Canadian horns, and will come with remote control for sound operation in DC. Several roadnumbers plus unnumbered units will be available. Decals with alternative locomotive numbers will also be provided.

CN placed five orders for the FP9A with General Motors Diesel Division in London, Ontario, taking delivery of the units between 1954 and 1958. Many of these locomotives are still in service today on tourist railways, business fleets, and even for VIA Rail Canada. The FP9A could be seen leading passenger trains across Canada and on CV and GT trains in the Northeast and Midwest states, respectively.

Rapido Trains Inc., 140 Applewood Crescent Unit A, Concord, ON L4K 4E2 Canada; 905-738-6445; Fax: 905-738-6265; E-mail: jshron@rapidotrains.com; www.rapidotrains.com

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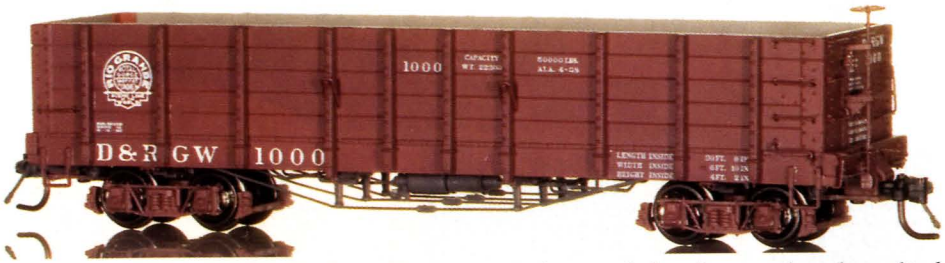
New D&RGW 1000 Series High Side Gondolas from Blackstone



HON3 — Blackstone Models has released new D&RGW 1000 series high side gondolas. They are factory painted and lettered for multiple roadnumbers. Each version is also produced in a weathered paint scheme. They represent the cars after they were rebuilt in the early 1920s.

They are available for Moffat Tunnel Herald No. 1000, No. 1145, and No. 9325; Flying Grande Herald No. 9206, No. 1012, No. 1039, No. 1077, No. 1165, No. 1133, No. 1267, No. 1258, and No. 1300; and Royal Gorge Herald No. 1036, No. 1331, No. 1202, and No. 1232. The non-weathered versions retail for $39.95, while the weathered models retail for $44.95 each.

The gondolas feature hand-applied side stakes, which vary according to roadnumber. Each car also features accurately placed and scaled hardware, individual wire grab irons, brake rigging, and underbody detailing, and fine nut and bolt applications. The interior appearance includes bracing detail, and a raised floorboard arrangement over the bolsters. The gondolas are constructed of diecast and injection-molded plastic, and included free-rolling arch bar trucks and Kadee 714 couplers.

Blackstone Models, 210 Rock Point Dr., Durango, CO 81301-7744; 970-259-0690; Fax: 970-259-0691; E-mail: sales@blackstonemodels.com; www.blackstonemodels.com

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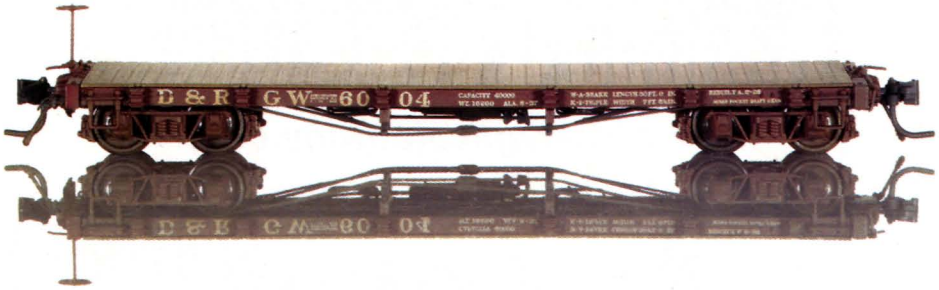
Blackstone's second release of D&RGW 6000 Series flat cars



HON3 — Blackstone Models has announced a second release of their ready-to-run D&RGW 6000 series flat cars. They are factory painted and lettered for multiple roadnumbers. Each version is produced in a weathered paint scheme and with an enhanced pad printed wood grain deck. These cars represent the cars as they appeared from the 1920s to the 1940s.

They are available for D&RGW No. 6004 (#B340306W), No. 6023 (#B340307W), No. 6033 (#B340308W), No. 6041 (#B340309W), No. 6057 (#B340310W), and RGS No. 615 (#B340311W). The flat cars retail for $44.95 each.

According to Blackstone, D&RGW standard specifications and remaining prototypes were utilized in an effort to create a detailed flat car. Appearance features include: individual wire detailing, accurately placed and scaled hardware, individual wire grab irons, brake rigging, and underbody detailing, as well as fine nut and bolt applications. The cars are made of diecast and injection molded plastic, and feature free rolling arch bar trucks and Kadee 714 couplers.

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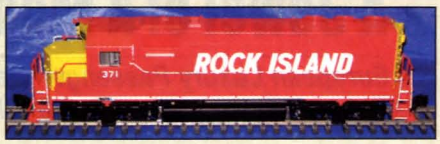

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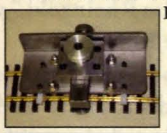

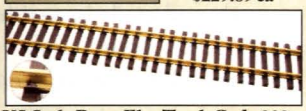

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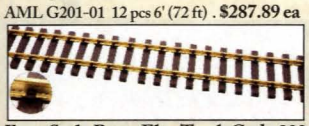

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Cover Story

REVIEW HO

Märklin's New Rheingold Express A Jewel of A Model

European Luxury Passenger Train Debutes in HO scale 3-Rail & 2-Rail

Review and Photos by David Otte

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As we'll see with Märklin's new Central Station (See Page 54), the German manufacturer is offering some very innovative command control equipment to the HO-scale market. However, their digital system is only the opening act for the real stars of the Märklin product line — the trains themselves. During the process of testing the Central Station, I was afforded the opportunity to experience the sights and sounds of Märklin's latest locomotive release, a Class 18.3 Express steam engine. She is a 4-6-2, by US standards, and is perhaps most famous for her role in pulling the European luxury passenger train known as the *Rheingold Express*. As such, I thought it would be most fitting to couple this Deutsche Rennpferd (German racehorse) up to Märklin's newly tooled *Rheingold Express* passenger car consist and take you all on a tour through this fabulous HO-scale luxury train as it makes its way along the magnificent Rhine River.

The *Rheingold Express*: The Journey and the Train

The *Rheingold Express* was the outcome of a European conference held in Prague in the fall of 1927. The German contingent put forward a resolution for a luxury passenger train that would unite the cross-channel English, via ship and then train, with the countries of The Netherlands, Germany, and Switzerland. The 411-mile route would start on the coast at Hoek van Holland near Rotterdam and run along the Rhine River by way of Arnhem, then through Düsseldorf, Cologne, Mainz, Mannheim, Karlsruhe, and Freiburg, Germany, and terminated in Basel, Switzerland. The name chosen for the train, Rheingold Express, was taken from composer Richard Wagner's famous 1869 opera "Das Rheingold," which romanticized the Rhine.

The new luxury passenger train was equipped with first- and second-class cars only and made its maiden voyage on May 15, 1928. Train number 102 left Hoek van Holland in early morning while number 101 left Basel during the afternoon. Each country's railroad would handle the train with their own locomotives while inside their borders. Eventually connections to other European cities would be made on a seasonal basis, but by 1939, as war broke out between nations, the *Rheingold Express* was canceled. Service was not reestablished until 1951 and the train continued on in various reincarnations until May 30, 1987 when most of the Trans-Europe Express trains were dissolved and replaced with a new network of European international intercity trains. Pertaining to the Märklin replica of this passenger train, we are interested in the *Rheingold Express* as it appeared from its inaugural run to the spring of 1931 to the nationalization of the German railroads in 1937.

To begin with, the Class 18.3 locomotive was used specifically on the southern leg of the journey through the Rhine Valley between Mannheim, Germany and the Swiss border. Its history goes back even further though, to the Grand Ducal Baden Railway's 1915 order for 20 of these superheated, 97 ton, four-cylinder compound locomotives with a 4-6-2 wheel arrangement (referred to in the German notation as 2'C1' h4v) from Maffei Locomotive Works of Munich. Designated class IV h on the state railway, they were high steppers with impressive 2,100 millimeter (82.5 inch) diameter drivers and a 218 pound boiler pressure making them capable of speeds of up to 140 kilometers per hour (87 miles per hour), which was perfect for their job of pulling coaches through the flatlands of the Rhine Valley.

Due to the First World War, construction did not begin until 1918 and, by the time the last group was delivered in 1920, all of the independent state railways had been consolidated into the Deutsche Reichsbahn Gesellschaft or German State

Märklin's latest HO-scale motive power release is a finely crafted replica of the German State Railroad's Class 18.3 express passenger steam locomotive. Originally constructed for the Grand Ducal Baden Railway between 1918 and 1920, this series of twenty 4-6-2 engines featured massive 82.5-inch drivers and could reach speeds up to 87 miles per hour. They were designed especially for use in the flatlands of the Rhine River Valley south of Mannheim, Germany, but due to their complex compound design and high rate of water and coal consumption, the class was downgraded to secondary duties by the early 1930s.

Märklin has captured every aspect of the sleek-looking compound Pacific-type prototype, which in German notation is referred to as a 2'C1' h4v. The boiler, chassis, and tender shell are made of diecast metal with mostly injection-molded plastic details separately applied. The Märklin AC version, as shown here, is equipped with an MFX decoder and digital sound system, but a 2-rail DCC/Selectrix with sound model is also available through Märklin's sister company, Trix.

Railroad Company. The Maffei-built locomotives were absorbed into the new company as Class 18.3 in three number groups: 18 301 – 303, 18 311 – 319, and 18 321 – 328. They were complicated machines, due to the nature of their compound cylinder design, and were not very efficient, either, because of an inadequate heating surface. Consequently, they used an inordinate amount of coal and water and were not much cared for by their crews. The Class 18.3 would only be used on the *Rheingold Express* until May 1931 when newer standard design Class 01s were assigned to the task. Sent to work in the northern flatlands of Germany out of Bremen, the entire class would continue to serve during the Second World War and a few even into the 1960s. Scrapping of the class began in 1948, but several examples survive yet today, preserved in museums around Germany for all railfans to enjoy.

Following behind were brand new passenger coaches of steel construction were built expressly for the Rheingold in 1928 by such famous German car shops as Wegmann, Westwaggon, and Linke-Hofman. These included: four first class SA4ük-28 cars with kitchens seating 20 people, four first class SA4ü-28 cars with seating for 28, six second class SB4ük-28 cars with kitchens seating 29 people, and six SB4ü-28 cars seating 41 passengers. The cars weighed between 51.9 and 56.6 tons each.

Although Märklin does not offer them at this time, an additional six cars were added to the roster in 1929 as class SA4ük-29 and SA4ü-29. In 1928, this fleet of 26 first- and second-class cars was joined by three baggage cars built by Wumag. The baggage cars weighed in at 41.2 tons each and were classed as SPw4ü-28. These cars continued to be used on the *Rheingold* until World War Two put an end to the train. Those cars that survived the war went on to serve in other capacities and none to my knowledge were used on the revamped Postwar *Rheingold Express*.

The *Rheingold Express* as Modeled by Märklin

Leading Märklin's *Rheingold Express* is a Class 18.3 steamer that easily rivals any HO-scale US-prototype steam locomotive model of recent production in the areas of accuracy, detail, and decoration. The 4-6-2 is constructed with a diecast metal boiler, chassis, and tender shell with the tender frame, cab, and most of the detail parts fabricated from plastic. Molded-in details, such as the usual rivets, boiler bands, and the electrical conduit, are delicate in appearance while the multitude of separately applied parts further enhances this sleek-looking locomotive. The list includes headlights, sanding and air lines, metal railing, cab window glazing, whistle, pop valves, all the various appliances, smoke lifters, valve wheels, brake shoes and hangers, and the sanding nozzles at the front two drivers. The interior of the add-on injection-molded cab includes backhead detail and is ready for the modeler to supply crew figures. The tender follows suit with hand applied plastic handrails topside, water supply valve wheel, rear metal ladders, backup lights, frame toolboxes, and front access steps.

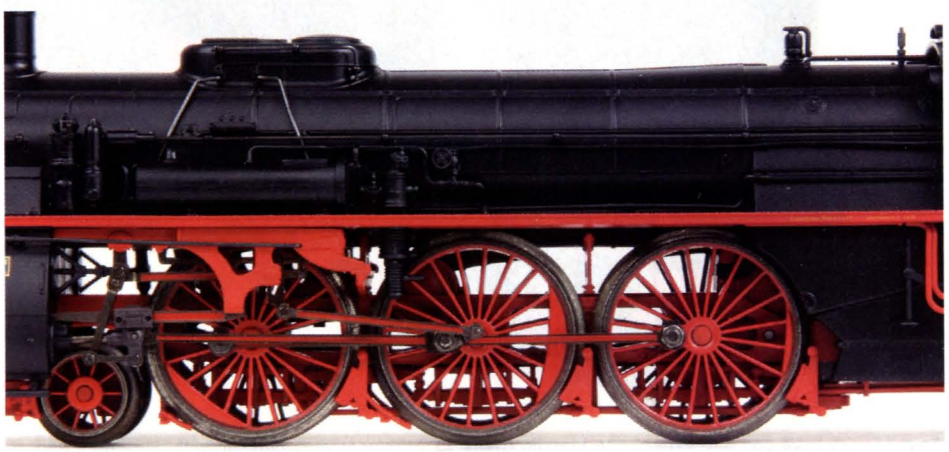
Compared to photos and published data, the 16 ounce Märklin 4-6-2 and tender matches the prototype quite well.

As modelers have come to expect, the Märklin Class 18.3 locomotive is blessed with numerous add-on detail parts. In particular, note the smaller inner high-pressure cylinders of this compound engine and how they are positioned out in front of the larger low-pressure cylinders hanging down over the lead truck — the most distinguishing characteristic of this J. A. Maffei Locomotive Works design. Also visible are the readable Maffei builder's plates on the lower cylinder, metal railing, sanding lines, the directionally controlled LED-equipped headlights, and the European-style NEM couplers. A separately sold smoke generator may easily be installed in this model for added effect and can be controlled digitally through the Central Station.

While the tall-drivered engine suggests a sense of gracefulness and speed, the short and stubby character of the 2'2'T29.6 tender is a bit of a distraction. Nonetheless, it, too, is well appointed with separately applied railing, working LED backup lights, a plastic coal load, and water supply valve handle. Note the unique wheel arrangement with a swiveling front four-wheel truck and the closely spaced two rear axles fitted between the tender's frame. The sound generator and speaker are housed within the tender's diecast metal shell.

The length over buffers was recorded to be 23,320 millimeters or about 76-feet 6-inches, which is exactly what the miniature locomotive and tender measure when the duo are draw-barred together at the closest connection. Other general dimensions followed suit with very close tolerances. Probably the number one visual attribute of the Class 18.3 engines though, as captured by Märklin in their rendering, is the four-cylinder compound design. The inner high-pressure 440-millimeter x 680-millimeter (17-inch x 27-inch) cylinders are positioned far to the front with the outer low-pressure 680-millimeter x 680-millimeter (27-inch x 27-inch) cylinders mounted directly over the lead truck.

However, the most eye-catching characteristic of this model for me was the undercarriage. Those large metal drivers with fine, see-through spokes are not only to scale diameter and proper wheelbase, but allow the modeler to appreciate the effort the manufacturer made in recreating the completely open-frame design and vast spacing that existed between the chassis and boiler on the real locomotive. The lead and trailing trucks are also very well crafted and equipped with see-through spoke wheels, too. Like all the wheels, the running gear is made of blackened metal and is scale in appearance. Likewise, the rather short class 2'2'T29.6 tender rides on see-through spoked wheels, used on both its pivoting four-wheel front truck and unique rear frame mounted axles.



Thanks to the compact design of their new Softdrive Sine motor, Märklin is able to replicate the real Class 18.3's open frame and proper spacing between the boiler and chassis without interference from the drive mechanism. Also note the fine, see-through spokes of those large-diameter drivers and the well-rendered blackened metal valve gear and rods. Although the engine weighs over 10 ounces, the manufacturer has outfitted the first and third set of drivers with traction tires to insure good tractive effort when pulling those long passenger car consists.

The appearance of the motive power on the Märklin Rheingold Express is only enhanced by that of the five-car passenger consist. The one-piece injection-molded bodies and plastic frames exhibit the same level of quality tooling as the locomotive with carbody panel lines, vestibule doors with latches and hinge detail, and rooftop rivets, vents, and hatches all incorporated into the die work. Add-on parts include non-working diaphragms, smokejacks on cars equipped with kitchens, a number of short roof walks, end ladders, and handholds. Underbody details are present too with ladders, battery and electrical boxes, and full brake gear displayed. All the cars ride on Görlitz type II four-wheel trucks reproduced in plastic and are complete with axle generators and blackened metal wheelsets. The baggage car has the addition of a curved cupola applied to its roof.

The real first- and second-class cars stretched 23.5 meters (77-feet 1-inch) long over their buffers while the baggage car was 19.68 meters (64-feet 7-inches) in length. Both classes of coaches offered a fantastic view of the Rhine, but first class riders enjoyed more spacious seating with side windows measuring 1.4 meter (4-feet 7-inches) wide as compared to occupants of the second-class cars with their slightly smaller 1.2-meter (3-feet 11-inches) wide windows. Cars equipped with kitchens had a slightly different window arrangement that included four smaller windows on one side of the body. The exterior of the Märklin models reflect these dimensions and window arrangements of the prototypes accurately and, on the inside, the modeler is treated to an authentic reproduction as well.

The interior details were a real standout to me, as they matched to a tee the layout portrayed in the photos and recorded verbal descriptions of the actual cars. By US standards, these carriages would be considered Parlor cars, beautifully appointed with fine woodwork, tapestries, and furniture. The first-class cars included two small private compartments equipped with either two or four seats with the rest of the open seating entailing a table with a single chair on either side of a table or two chairs on one side of a table. The first class cars' sliding seats consisted of single upholstered chairs with high backrests. Second class

cars had fixed upholstered armchairs used throughout, usually positioned in a 2 + 2 arrangement around a table on one side of the aisle and a 1 + 1 seat setup around a smaller table on the opposite side of the aisle. All cars had lavatories and those equipped with kitchens had these seating layouts adjusted accordingly. Both classes had individually switchable lamps located on each table too. Likewise, tables, wing backed chairs, wall partitions, and even table lamps all molded in different colors were present on the Märklin cars.

As much as I found the level of detail on the entire train set to be well executed, Märklin deserves a round of applause for faithfully replicating the *Rheingold Express*' colorful decoration. The Class 18.3 wears a typical DRG steam locomotive scheme of black satin finish above the frame and bright red beneath. Simple, but quite sporting in appearance, suggesting the high speed this 4-6-2 was capable of reaching. The locomotive is further accented with gold and white lettering, some of it extremely tiny, but all readable under magnification. "Deutsche Reichsbahn" and roadnumber "18 321" are properly positioned centered on the cab sides and in the lower front corners "Offenburg" is correctly listed as the engine facility from which the class operated during this time period. Rounding off the locomotive's finish are J. A. Maffei builder's plates on the cylinders stating the correct delivery year of 1920 for our 18 321, which was part of the last batch of this class delivered to the state railway.

The flawless paint application of the engine was nothing compared to the rather complex finish on the consist. Both the first- and second-class cars were decorated with a dark plum body, cream-colored window bands, black underframe and trucks, and silver roof. The body of the baggage cars was completely dark plum with only the ends of the cupola painted cream. Top this off with gold pin-striping down the sides and on the door panels of the parlor cars as well as door handles and some window mullions also accented in gold, and you have a real work of art on your hands that any ordinary railroad's paint shop crew would shake their heads at in disbelief. However, the artisans at Märklin carry it off with great precision and more.

The prototype carriages carried raised lettering on the sides indicating the class number as well as spelling out "Mitropa" (an organization who managed the German railroads' dining and sleeping cars similar to the US's Pullman Company) along the top of the sides near either end with "Deutsche Reichsbahn" in the center. Remarkably, the raised lettering exists on the HO-scale models too. Finally, the baggage car, as well as the parlor cars, all exhibited laser-sharp, readable gold or white car data on their sides along with the circular Deutsche Reichsbahn eagle emblem.

The beautifully decorated *Rheingold Express* five-car set includes from top down: a SB4ük-28 2nd class car with kitchen, a SB4ü-28 2nd class car, a SA4ük-28 1st class car with kitchen, a SA4ü-28 1st class car, and a SPw4ü-28 baggage car — all modeled after the original 1928 train set. The correctly dimensioned injection-molded carbodies and fames ride on the proper Görlitz type II four-wheel trucks and all cars feature current conducting, close couplers, providing not only a more realistic car spacing, but power for the parlor cars' illuminated table lamps and baggage car's marker lights.

The *Rheingold Express*: Wheels in Motion

As I allude to in my review of the Märklin Central Station, the Class 18.3 steam locomotive is one of the company's most technologically advanced models on the market today. First of all, it's powered by their new Softdrive Sine motor, which not only provides smooth and efficient propulsion, but also is very compact in size, allowing the relationship between the boiler, chassis, and drivers to be modeled as accurately as possible. This benefit is certainly evident on the 4-6-2, seeing that the motor is totally inconspicuous as it powers the third drive axle. The center pair of drivers is sprung as well so that, depending on how closely the modeler has coupled the engine to the tender with its adjustable drawbar, the locomotive can negotiate curves measuring down to 14-3/16 inch in radius. Traction tires on the rear set of drivers provide this 10.5 ounce engine with ample tractive effort, enabling it to easily haul passenger consists three times the size of the *Rheingold Express* set. All drive wheels appear to provide outside rail electrical pickup with the slide shoe pickup on the tender contacting the center studs on the unique Märklin Alternating Current "3-rail" track design.

The locomotive has functioning headlights and backup lights that are equipped with LEDs and controlled automatically with the direction of travel. Although a

Each car is nicely detailed with add-on end ladders, handholds, end diaphragms, window glazing, and roofwalks with battery boxes and brake gear displayed beneath. However, it is the elaborate paint and lettering scheme that sets these cars apart from the usual, run-of-the-mill passenger car consist. Fit for a king, the dark plum and cream-colored carbodies alone just ooze a sense of high-class luxury. The gold pin-striping and fine readable lettering is quite impressive too, along with the prototypically accurate raised class numbers below the windows and the raised words "Mitropa" and "Deutsche Reichsbahn" along the top of the car sides. Each of the first- and second-class cars have a fully detailed interior matching the prototype cars' layout. This includes armchairs, tables, wall partitions, and, to my surprise, lighted table lamps. Wow!

smoke generator is not included, it is designed to easily accept a Märklin number 72270 unit.

Equipped with an MFX decoder and digital sound, the 4-6-2 is a delight to operate by way of the Märklin Digital system. As mentioned in the previous review, the address, name, acceleration and braking delay, and maximum speed may all be programmed by the modeler, although factory settings are immediately read and registered by the Central Station upon setting the locomotive on the programming track. There are eleven functions to manipulate including the headlights, sounds on/off, smoke generator on/off (if applicable), long whistle, acceleration/braking delay on/off, air pump, squealing brakes, short whistle, steam blow-off, the sound of coal being shoveled by the fireman, and the shaking of the rocker grate.

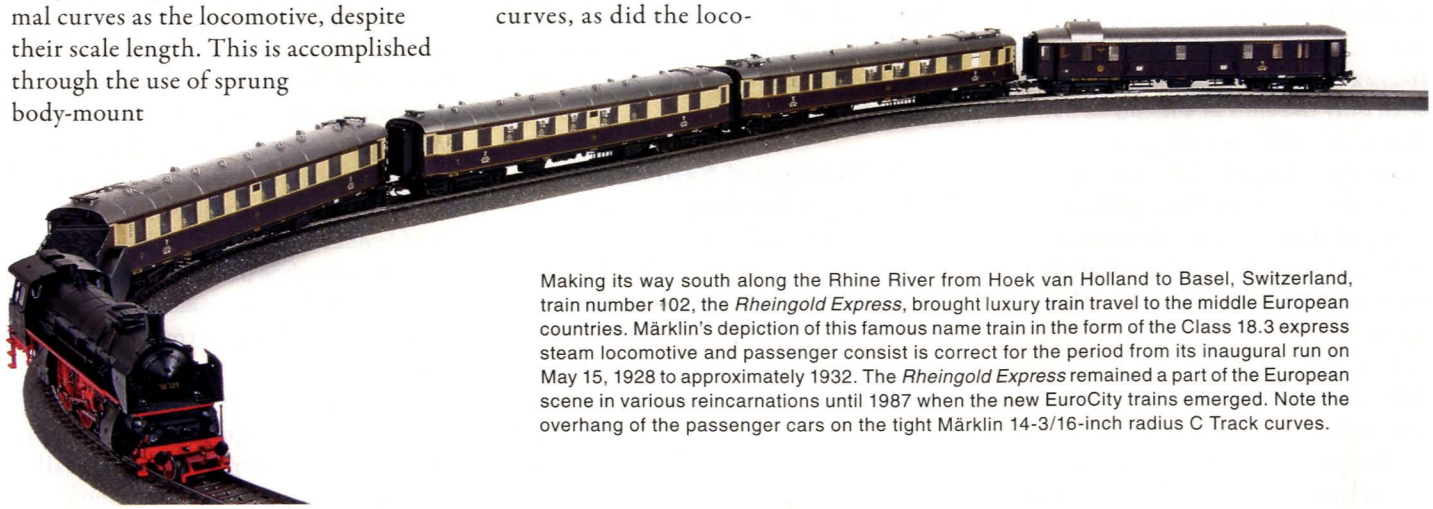
In turn, the passenger car consist is designed to operate on the same minimal curves as the locomotive, despite their scale length. This is accomplished through the use of sprung body-mount couplers and coupler guides integrated into the ends of the trucks. The standard NEM couplers are of a current-conducting, close-coupling design, so they not only keep the cars together in a more realistic spacing, but aid in providing electrical conductivity for the optional interior overhead lighting system that may be purchased from Märklin (kit number 73400 – two per car).

As a result of the coupler arrangement, the cars are designed to operate in a specific orientation with a second-class car in the lead and the baggage car at the end. Märklin refers to these two cars as the "end cars" denoted by their retracted diaphragms and folded up crossover plates. What's more, a function decoder may be installed in the baggage car so the consist's lighting can be controlled digitally.

On the test track, I found the cars, which weighed 5 to 5.5 ounces each, tracked well on the 14-3/16 inch radius curves, as did the locomotive. However, the passenger cars do overhang these tight curves enough that they may come into contact with trackside scenery. All functions worked as advertised with the sound effects not quite as enriching as some of the newer US-made, sound-equipped models I have experienced, but enjoyable nonetheless. However, I was in for bit of a surprise when I turned down the room lights to check on the engine's headlights and found all the table lamps in the first- and second-class cars aglow in a yellow hue. To top it off, when the entire consist passed by, I found the marker lights on the baggage car glowing red too. Cool! With these included lighting effects, those separately sold interior lighting kits really aren't all that necessary.

A *Rheingold Express* for 2-rail DCC Too

If you're already a fan of Märklin trains, then the *Rheingold Express* is going to meet expectations and then some. Period. For those of you who model 2-rail HO-scale trains utilizing NMRA-sanctioned Digital Command Control and are liking what you see, but feeling a little left out – I've got good news. Both the Class 18.3 steam locomotive and the *Rheingold* consist are available in a 2-rail DCC/Selectrix with sound format through Märklin's subsidiary, Trix. So there's really no excuse; regardless of your model railroading allegiances, all HO-scale enthusiasts can experience this well engineered and beautifully rendered passenger train on their own layout. For more information regarding the DCC compatible Trix version of the *Rheingold Express*, check it out on the web at www.trixtrains.com.



Making its way south along the Rhine River from Hoek van Holland to Basel, Switzerland, train number 102, the *Rheingold Express*, brought luxury train travel to the middle European countries. Märklin's depiction of this famous name train in the form of the Class 18.3 express steam locomotive and passenger consist is correct for the period from its inaugural run on May 15, 1928 to approximately 1932. The *Rheingold Express* remained a part of the European scene in various reincarnations until 1987 when the new EuroCity trains emerged. Note the overhang of the passenger cars on the tight Märklin 14-3/16-inch radius C Track curves.

And there she goes! As the SPw4ü-28 class baggage car clears the bridge, it brings up the tail end of the *Rheingold Express* consist, which is only minutes away of entering the station at Karlsruhe, Germany. The luxury train is available both for Märklin 3-rail Digital enthusiasts and under the Trix brand name outfitted for 2-rail Digital Command Control compatible operation.

REVIEW Accessories

Entering the World of Digital Train Operation

Märklin's New Central Station Pushes the Envelope

Review and Photos by David Otte

Central Station (#60213), MSRP: $899.99
Booster (#60173), MSRP: $299.99
Märklin Inc.

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P.O. Box 510559
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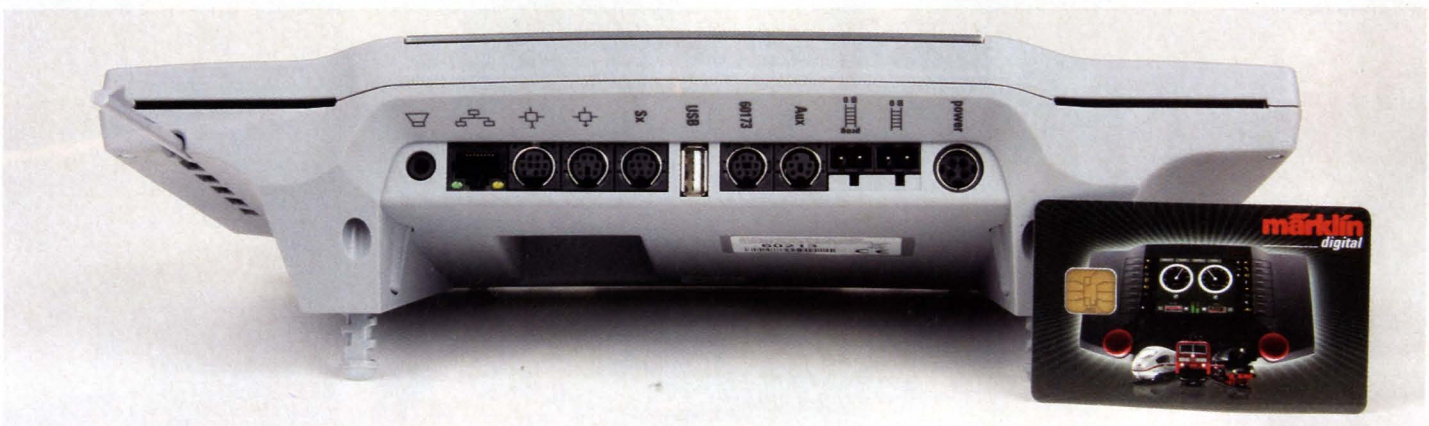
The basic components of Märklin Digital: The sophisticated multi-train and layout controller known as the Central Station and a MFX decoder-equipped engine capable of two-way communications as well as sound effects. A full review of this German Class 18.3 steam locomotive is found earlier in this issue.

A **PIONEER** in the world of digital command controlled model trains, Märklin has never been content with the status quo and is always looking to improve its well-regarded Digital (Motorola format) system. Proof of this technological restlessness is Märklin's new, fourth-generation multi-train control unit known as the Central Station and its new companion 60173 Booster unit. Although designed for use with either Märklin's unique alternating-current-powered HO Gauge 3-rail or 1 Gauge (1:32 scale) 2-rail track designs, the Central Station, along with the entire Märklin Digital product line, continue to push the model railroading community into the next generation of command control layouts.

The word "central" in Central Station means just that; every operating accessory and locomotive equipped with a decoder on a Märklin layout can be operated from this single unit. The Central Station is basically a small computer that processes information, has onboard memory, and utilizes its own operating language. Specifically, its Marvell PXA270 processor is similar to the technology found in Personal Digital Assistants, or PDAs, with an operating system based on the Gentoo Linux system.

The main unit is bigger than a typical PDA, but much more compact than the standard laptop computer, measuring 12.5 inches long by 7.5 inches wide and 3 inches high at the rear when sitting on a flat surface. The simple, contemporary-styled control surface exhibits an array of



Making the connections between the Central Station and your layout are straightforward thanks to the labeled ports located on the rear of the unit. These include from right to left: the power jack, direct main track connection (special plug and wiring harness included), programming track (special plug and wire harness included), an unspecified auxiliary connection, the 60713 Booster connection, USB port, optional port, input and output jacks for connecting with additional Central Stations or a 60125 Terminal unit, a standard Ethernet RJ-45 receptacle, and speaker or headphone jack (future use). Also note the stylus and its built-in compartment and the slots of the card readers on either side of the interface manifold, which accept special data cards (pictured to the right) holding the pertinent information of a locomotive.

push buttons and knobs as well as a large 6-inch by 3.5-inch color LCD touch screen — the most defining feature of the Central Station. A manifold of interfaces located on the rear edge of the sturdy gray plastic housing provides connections for the power supply, a direct main track feed, a programming track feed, a 60173 Booster feed, a USB port, additional auxiliary ports, a Märklin Systems network terminal connection, and a built-in RJ-45 (Ethernet) jack offering the ability to interface with a computer network. Also on the rear, one will find a stylus in its recessed holder and the slots for the locomotive data card readers on either side of the screen. The locomotive cards (three cards are included with the Central Station) hold information on a particular locomotive's functions and custom settings for quick access by any Central Station. Finally, the Central Station is equipped with two receptacles along its front edge for the direct connection of Mobile Station controllers, offering additional operator participation, and built-in adjustable legs at the rear of the housing. Packaged with the Central Station are a power supply cable and two track power wiring harnesses.

Inside the Marklin Central Station

The Central Station has a built-in booster that allows a maximum power output of 48 VA. However, it does not include its own power supply. Märklin recommends their model 60055 Transformer for the job, which provides 60VA of power. For my test purposes, I relied on an older Märklin Model 6001 Transformer with a 42 VA output, which still provided ample power on my test layout. On larger layouts, boosters can be added to the system as with past generation Märklin Digital stations, but the new 60173 Booster has been created expressly for the new Central Station having the ability for two-way communication with MFX decoder equipped models — a feature missing from previous Märklin boosters.

Generally, the Central Station is designed to accommodate the simultaneous maneuverings of any two locomotives at any one time from the total group of trains running on a layout. Independent conventional controls for accomplishing this task are laid out on either side of the touch screen. Starting at the bottom, each side has a locomotive selector button, a red throttle/direction knob, and eight function buttons above. An illuminated "Stop" button, which controls the main power feed to the track, is located at the center bottom. However, a good percentage of the operations are conducted through menus listed on the touch screen, which are accessed through the appropriate tabs, pictogram buttons, and through the aid of a standard keypad integrated into the touch screen. The included stylus may be used for making your touch screen selection or, if you're like me and feel more comfortable using a mouse, a USB mouse can be plugged into the Central Stations USB port. I had a Microsoft brand wireless mouse that worked great with this system.

The Central Station is organized into five main windows accessed through tabs visible at the top of the touch screen: Setup, Control, Keyboard, Memory, and Layout. Setup is the Central Station's main utility menu where the operator can choose the language the text appears in, the ability to incorporate a Mobile Station and assign it locomotives, the restart and shutdown of the unit, the updating of the firmware, the recalibration of the touch screen, and other optional settings that fine-tune the operating characteristics of the Central Station. One of the highlights of this screen is the "Information" button, which yields a bar graph depicting the current draw of both the main and programming tracks, the voltage, and the operating temperature of the Central Station as well as for any 60173 Booster units installed in the system.

Updating the Central Station

There are two ways to update the Central Station's operating system: network connection or USB memory stick. I performed an initial update to our review sample by plugging it into my DSL network router via Ethernet cable and then pressing the "Update" button. The Central Station automatically accessed the Märklin web site, downloaded the update, and installed it: all in a matter of minutes. However, if you don't have access to a computer network, you can also download the update from the Märklin web site to your home computer and load it on a USB memory stick, which can then be plugged into the USB port on the Central Station and the new software installed.

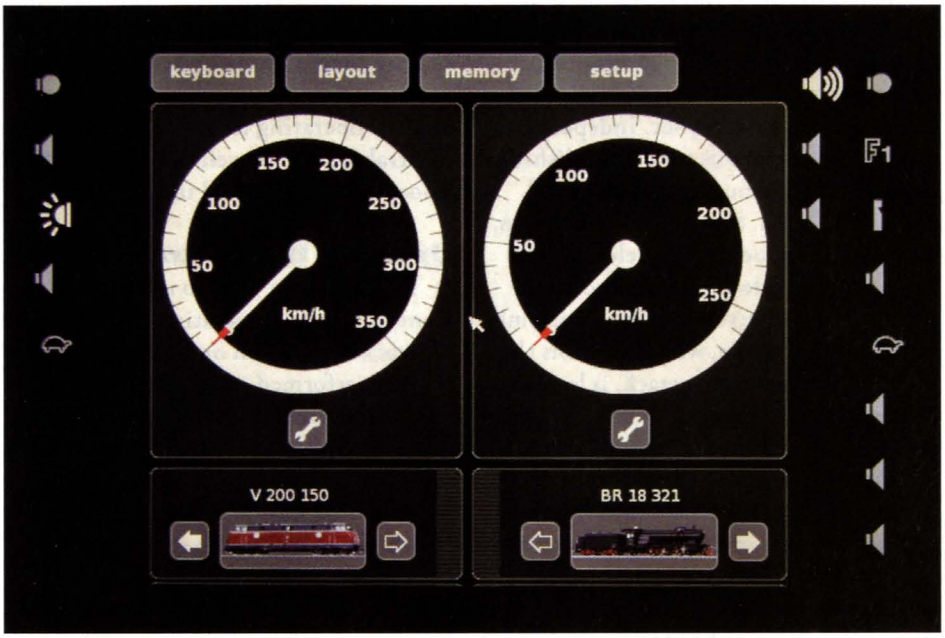
Start Up

The Control window is the main screen that appears upon startup of the

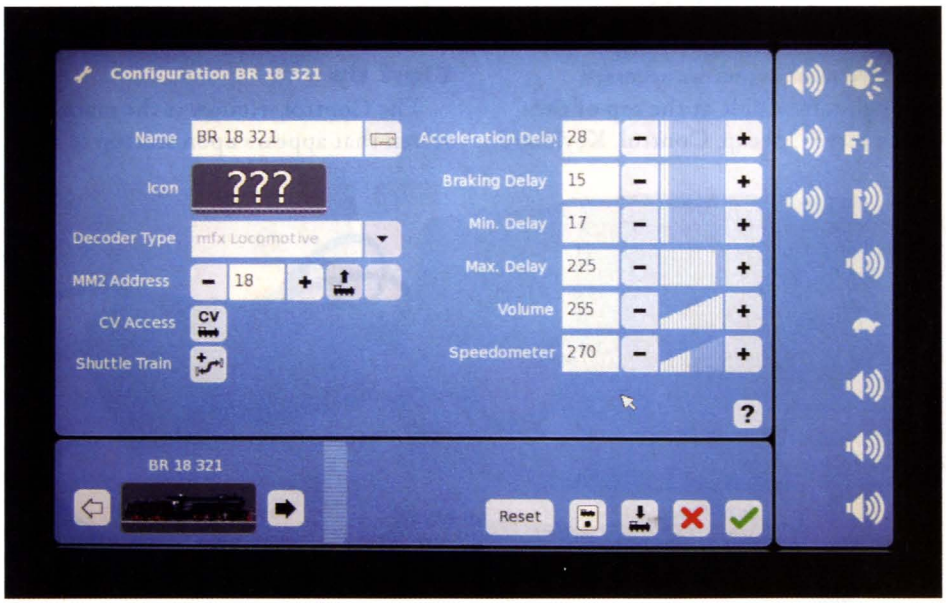
While the newly designed 60055 Transformer is recommended for powering a Central Station equipped layout, the older and slightly less powerful Märklin Digital 6001 Transformer can still be used. Märklin includes a power adapter cable as pictured here with our 6001 unit. Also noteworthy is the addition of the new 60713 Booster (at left of Central Station), which is mfx capable and connects directly to the Central Station by means of a 9-conductor wiring harness.

Central Station. Here is where locomotives are setup and controlled. The screen is divided into two halves reflecting the operating characteristics of the current locomotives being maneuvered. Displayed on each half are a large dial speedometer, a small picture identifying the class of the locomotive, direction buttons, and up to sixteen decoder functions represented by various pictograms. Touching the image of the locomotive yields a submenu allowing the operator to choose another locomotive to maneuver, add or delete a locomotive to the Central Station, and the option of creating a multiple unit set of engines.

One of the most important buttons to point out at this time is a small, square-shaped button appearing below the speedometer on which a wrench is depicted. Not only is it found on this screen, but throughout the menus of the Central Station. This is the configuration button. It allows you to access, change, and store data whether it is in regard to a locomotive's decoder, the manipulation of a turnout, the setup of a route, or the changing of the screen settings. It's the gateway to adapting the Central Station to your layout needs. Furthermore, a keypad button can be found throughout the menus too whenever the operator is required to name a locomotive or program function. Pressing this button brings up a full keypad so entries can be easily typed.



The screen layout of a typical operating session with the Central Station. The Control window is divided into two sections; one for each controller. The Digital V200 diesel hydraulic engine and MFX Class 18.3 Pacific are currently being maneuvered with speed and direction indicated. Note the 11 functions of the 4-6-2 listed off to the right and the 5 functions of the diesel at the left. The tabs at the top of the screen allow the operator to switch to the other windows at any time. Of special interest is the small button displaying a wrench under each speedometer, which allows the operator to enter the configuration screen of a particular locomotive.



The Control configuration window for the Class 18.3 steam locomotive shows how simple it is to manipulate the various settings. Here a new image may be selected, the address changed, the momentum set, or the volume adjusted. Note the keypad symbol next to the name field, which can also be found throughout the various configuration windows of the Central Station. Pressing it activates a full keyboard for labeling locomotives, accessories, and other aspects of layout control.

With this knowledge in hand, tackling Locomotive setup and control, in particular, is fairly easy with the Central Station. First of all, locomotives equipped with Märklin's premier MFX decoder register themselves in the System. Take for instance Märklin's new German Class 18.3 steam locomotive, as was supplied to us by the manufacturer for this review. All I needed to do was place the model on a powered section of the track. The locomotive's onboard MFX decoder and Central Station talked to one another and within 10 seconds or so I was ready to operate the newly registered locomotive. An image of the 18.3 appeared on the screen, as did all of its operator-activated functions such as sounds, lighting, and momentum controls. Pressing the aforementioned configuration button allowed me to easily adjust the overall volume, the braking and acceleration delays, and even change the address from the factory default if I desired.

Manual Control

Adding older DELTA and Digital decoder equipped engines is not quite as simple, but straightforward nonetheless. There are two methods from which to choose: entering the locomotive manually or choosing it from a database that includes hundreds of previously produced Märklin models. Pressing the locomotive image currently on the Control screen yields a dropdown menu for adding a new locomotive by either method. Setting up the engine using the database allows one to scroll through a list of Märklin products sorted by the original stock number and make their pick. As long as you have kept the packaging, which displays the product number, this is the best method. On those occasions

when the locomotive's product number is not known or listed in the database, it can be entered manually. This entry process allows the operator to fill in the address field (1-80), type in the name using the keypad, and to select a locomotive image that represents the class of motive power being used.

I tried adding both the older DELTA and Digital decoder-equipped models we still had on hand from previous reviews. In both of these cases, first with the DELTA Class E69 electric and the Digital V200.1 class diesel, I knew the stock numbers and found them easily by scrolling through the Central Station's database. While the E69 had no functions to speak of, the V200's screen came up correctly displaying five symbols for several sound features, headlight and marker light functions, and adjustable running characteristics. However, I did have to go back and choose images from a list of provided photos to represent these two classes of locomotives.

To sample the third method of entering a locomotive to the list, I chose an older DELTA equipped steam engine from a starter set we reviewed years ago. The class 86 2-8-2 tank engine did not have a product number, but I knew DELTA locomotives used one of only four different numerical addresses with steam engines usually set at 78. After selecting the "New Locomotive — manual" menu, I selected "Programmable Decoder" from the sub-menu, entered "78" in the address field, selected a class 86 picture from the image database, and typed in "Class 86 582" for the name of the new entry. Bingo! The tank engine appeared on the list and was ready for action.

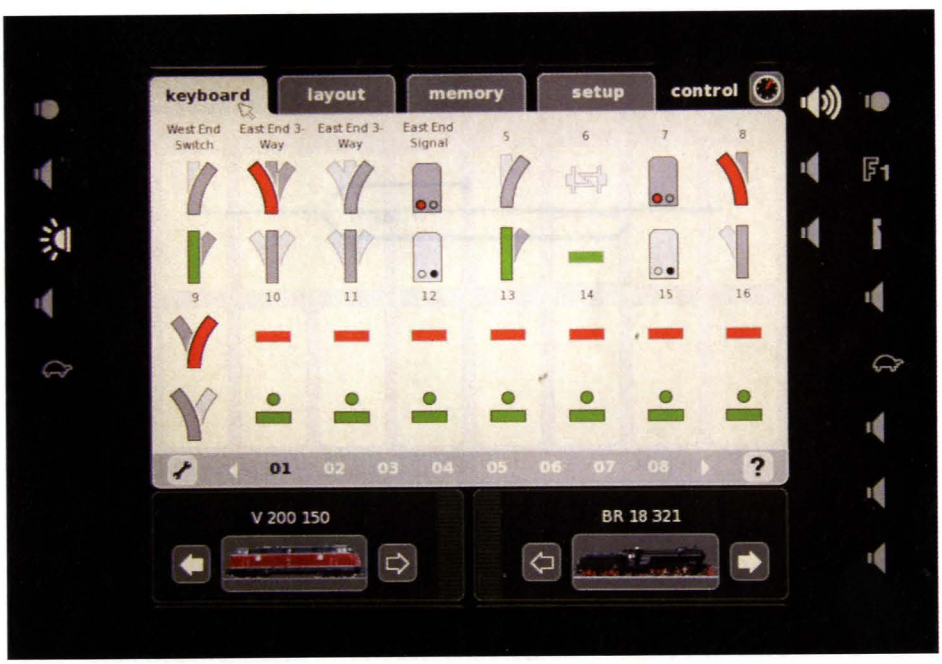
Operation on the Central Station

I had all four locomotives operating on the test layout and found switching back and forth between models was fairly quick using the mouse, stylus, or conventional controls; although you're limited to only operating the first eight functions of a locomotive with the mechanical buttons on the side of the screen. The Central Station appears to have a first rate graphics generator — there was hardly any lag time between the various menu screen changes.

With the locomotives now under our command, it's time to gain control of the layout itself. The first step in this process is through the Keyboard window. To begin with, turnouts, signals, or any other item on the layout that is activated by an electromagnetic solenoid mechanism must be connected to an appropriate decoder such as Märklin's k83 or k84 models. Then it is just a matter of configuring the solenoid accessory in the Keyboard window; up to 320 addresses can be created. This requires the user to choose the type of accessory from a list, select either an 8- or 10-code address, which is offered by the Central Station for the operator to set on the various accessory decoders via the decoders' dip switches, type in a name for the device using the keypad and, finally, adjust the duration time of activation needed for that particular solenoid accessory. Operator activation of a specific accessory involves nothing more than scrolling through the screen to that device and touching the symbol.

Once the solenoid accessories have all been entered, they can be organized into control areas that reflect different divisions, sidings, or yards on a layout. These particular paths the train will traverse are called routes. The Memory window then serves the function of setting up and activating this group of the accessories per the operator's instructions, either manually with a single press of a button, or automatically through the use of s88 contact decoders. The Central Station can have up to 416 routes configured from the items entered in Keyboard menu.

The final step in having command control over your layout is achieved through the Layout window, which is perhaps the most novel feature of the Central Station. The Layout function combines the accessories entered in the Keyboard window and the routes in the Memory window and allows the operator to "draw" portions of their layout on the screen. The track diagram configuration screen provides a grid to help in this endeavor along with track and solenoid accessory symbols and drawing tools. Routes, turnouts, straight track, signals, whatever reflects the actual layout may be oriented on the diagram screen. Best of all, when everything has been setup, the modeler can actually operate the accessories from the Layout window activating the turnouts or routes, for example, by simply touching their track symbol. This is very similar to how real railroads function today through centralized operation centers, except that the Central Station is un-



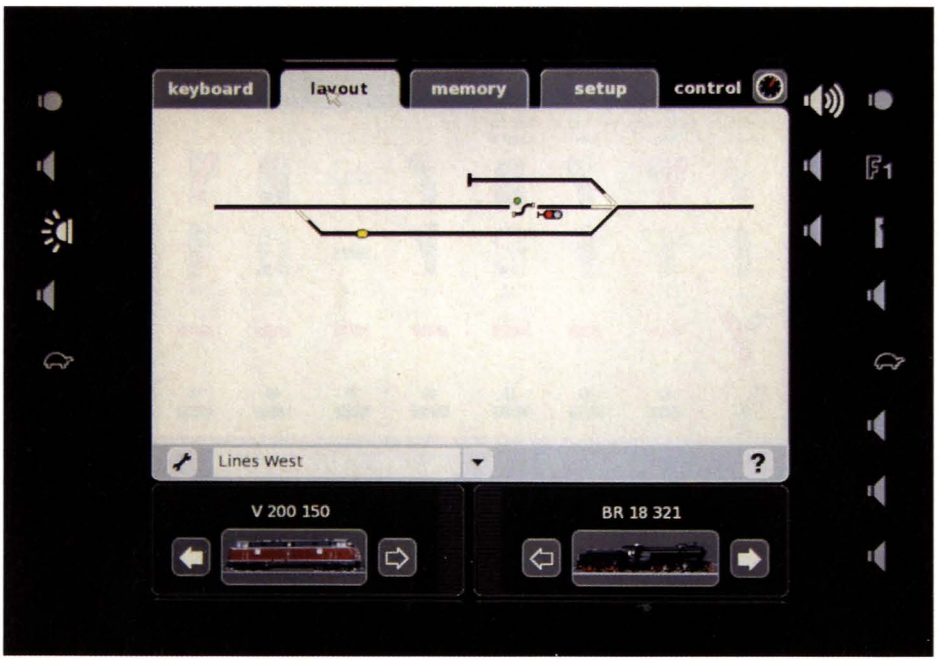
This is the Keyboard window for setting up and activating all those decoder-equipped solenoid based accessories such as turnouts, signals, uncoupling tracks, and so on. Up to 320 accessories can be controlled remotely. Symbols of the various accessories are provided, as are the addresses the modeler will need to enter on the individual decoders. If you run into a problem, simply select the question mark button found in almost every window and a help box will appear with additional information. I've entered several accessories here as examples.

able to show the real-time location of a specific train on the Layout screen. But perhaps this ability will be the next big Märklin breakthrough!

Unfortunately, I didn't have any decoder-equipped solenoid accessories with which to test these later features of the Central Station, though I did go through the motions of entering some fictitious turnouts, signals, and routes as well as creating a small layout diagram. I discovered the whole process to be pretty straightforward as described in the Central Station's 30-page instruction booklet and, when in doubt, pressed the question mark buttons, which are located on almost every window and configuration screen, and found additional, helpful information on the specific task I was contemplating. Also, so things don't get out of hand while the operator is moving between windows, the speed bar graphs, direction indicators, and the images of the two current locomotives being maneuvered are always displayed at the bottom of the screen.

keyboard
layout
memory
setup
control
Route W-E
A2 A3 A4 A5 A6 A7 A8
B1 B2 B3 B4 B5 B6 B7 B8
C1 C2 C3 C4 C5 C6 C7 C8
D1 D2 D3 D4 D5 D6 D7 D8
A-D E-H I-L M-P Q-T U-X Y-b c-f
V 200 150
BR 18 321

The Memory window offers the modeler the ability to set up routes or predetermined paths for a train to travel. Routes are used so that the operator can activate multiple solenoid accessories with the press of a single button or they can be combined with s88 contact decoders for automatic activation. I created "Route W-E" using several of the solenoid accessories prepared in the Keyboard window.



My favorite feature of the new Central Station is the Layout window. Here you can create a diagram of the various sections of a model railroad, including the solenoid accessories and routes entered in the other windows, and actually operate these features from the Layout screen. A sample track plan, labeled "Lines West," is pictured with West End turnout, s88 contact No. 1, the Route W-E, the East End Signal and the East End 3-Way turnout incorporated. Use the stylus or a USB mouse to touch on the accessory to manipulate it.

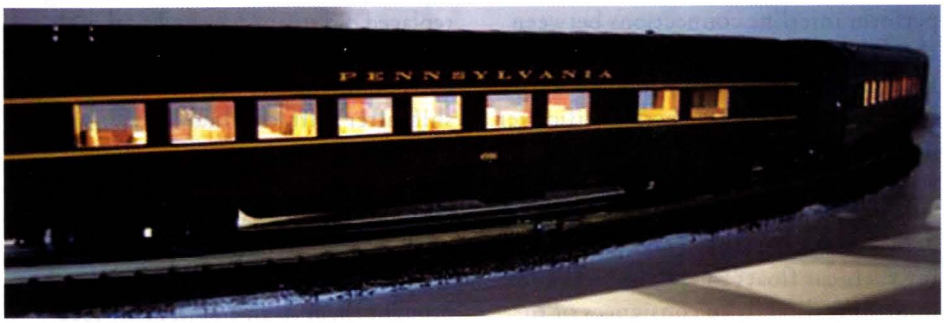
Caveats

Typical of any new high tech gadget, a couple of glitches in the Central Station's firmware have been reported by Märklin enthusiasts. The only anomaly I personally discovered though, involves the keypad function. When attempting to type the class name for the DELTA equipped 2-8-2, I noticed I was unable to enter an upper case "B." Instead a lower case "b" appeared. So then I tried typing a lower case "b," but an upper case "V," the letter to its left, appeared on the screen. This problem seems to afflict only the bottom row of keys so the modeler for the time being can make do adjusting their typing according. Märklin's tech people are fully aware of this defect and are currently working on a fix to be included in the next software upgrade scheduled for release (at the time of this review) in early 2009.

Final Thoughts

I've always been fond of the Märklin Digital multi-train and layout control system for its user-friendly attitude, but the newest Central Station really takes the cake. Current Märklin fans will find a familiarity with its operation, as it builds on over 20 years of Digital know-how, while those novices contemplating a Märklin layout will discover, after a very short learning curve, what it means to have a full command control layout without the need for a degree in electrical engineering! However, the Märklin experience doesn't end with the Central Station. The whole product line must be seen and played with to be appreciated. As I alluded to with their new Class 18.3 German 4-6-2, the manufacturer produces some state-of-the-art, highly detailed models, too, for interaction with the Central Station. You can find the review of the German *Rheingold Express* passenger train earlier on in this issue, where I explain a little more how the Central Station and the set work together.

New Lighting Strips from Dallee Electronics



Dallee is offering new regulated lighting boards that allow modelers to adjust the lighting based on their needs.

MULTI-SCALE — Dallee is offering a new regulated RL-LED lighting board that will allow modelers to light passenger cars and other items with the desired color temperature.

The RL-LED boards are 1/2-inch wide x 10-inches long, and contain four super-bright LEDs positioned to create uniform lighting throughout its length. The RL-LED contains regulated variable intensity adjustment from a minimum brightness to full brightness. The power section is located on one end of the board thus allowing for the LED sections to be broken off and moved from the straight strip, thus accommodating various size installations such as cabooses (most will only need one LED).

The sections can be connected with wires or by utilizing #757 connectors. The RL-LED is secured in place with double sided tape (item 388).

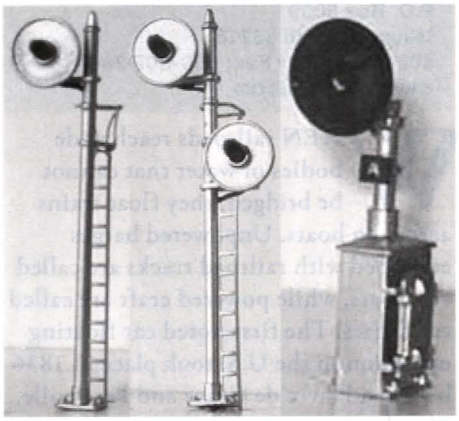
According to Dallee, the LEDs are less than 0.1 inch in height and have a 120 degree viewing angle, allowing for illumination in all directions. The typical light output is 18 lumens per LED.

The RL-LED board is available in two versions: Item #2379 is a Warm White to match a filament bulb for older cars and Item #2380 is a Cool White, which is similar to florescent lighting found in modern cars. Introductory pricing for the RL-LEDs, are $29.95, plus $11.00 shipping and handling if ordering direct.

Dallee Electronics, Inc., 246 W. Main Street, Leola, PA 17540-1752; Phone/Fax: 717-661-7041; E-mail: info@dallee.com; www.dallee.com

SA-Type Signals for S Scale

S — NJ International has released three new S-scale SA-type Target Signals. The signals are made of brass construction, are said to be exact scale, and feature bi-color LEDs. A single target signal (#4345) retails for $22.98, a double target #4351) retails for $25.95, and a ground target with a fully detailed, opening cabinet door (#4355) retails for $25.99.



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REVIEW HO

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Review and Photos by V. S. Roseman

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WHEN railroads reach wide bodies of water that cannot be bridged, they float trains across on boats. Unpowered barges equipped with railroad tracks are called car floats, while powered craft are called car ferries. The first noted car floating operation in the U.S. took place in 1836 between Havre de Grace and Perryville, Maryland.

While car floating in New York Harbor may be the most extensively documented, due to the large number of railroads involved, other cities such as Mobile, Alabama, Baton Rouge, Louisiana, Norfolk, Virginia, and Pittsburgh, as well as many smaller cities and towns on rivers, lakes, and along both coasts of the U.S. have or once had rail marine operations.

In San Francisco Bay, for example, the Santa Fe used car floats and tugs to perform interline connections between their rails in the East Bay with the State Belt Railway and Northwestern Pacific lines. At one time, Southern Pacific even moved passenger trains across the bay by watercraft.

The Erie Railroad performed local deliveries on the Chicago River by mooring their car floats to various piers and unloading directly to consignees or to motor trucks.

In New York, similar service was provided by the mainline railroads car floating to a number of local shortlines for final delivery, while in British Columbia, the Canadian Pacific interchanged freight cars with isolated trackage at Slocan City and elsewhere.

Another service performed by car floating was lighterage, in which the float would be moored to a freighter in the harbor for loading. This often overlooked facet of railroading contributed greatly to the traffic of the railroads involved. For example, in the 1950s, several thousand cars each day moved across New York harbor on car floats, and the railroads performed the service at no additional cost.

To load freight cars, car floats would be tied up to a floatbridge (also called a car float apron) which was hinged at the shore end and supported at the river end either by a pontoon or by an overhead gantry.

Railroad-operated tugboats hauled car floats and railroad barges about the various harbors and rivers. After World War II, many railroads and private towing companies involved in car floating replaced old steam-powered tugs with modern diesel craft. Steam tugs required daily maintenance, but diesels could work shift after shift, continuously, making them much more economical to operate.

Competition from other forms of freight transport, railroad mergers joining formerly disconnected lines and the expense of operating the marine services brought them to an end in many locations, although car floating is still performed today. In New York, for example, the New York New Jersey LLC continues to operate service between Brooklyn and Jersey City. Most of the railroad diesel tugs built in the late 1940s and 50s are still in service after more than 50 years, an exceptional record. These tugs can still be seen in railroad service on Chesapeake Bay, or working for commercial towing companies around the country.

Railroad tugs differed from other tugboats in that they had an extra tall pilothouse to see over the tops of freight cars, and railroad tugs were larger than most other harbor tugs. (On some rivers, push-type towboats were used, and HO-scale kits are available.) The Walthers' model is based on a General Motors/TAMS Naval Architecture Company plan that was used by the New Haven, Erie and Lehigh Valley RR. Other railroads used the Bowes design (including Reading, Central RR of NJ, B&O) and the Consolidation design by the General Managers Association (Lackawanna,

Side view of the Walthers railroad tugboat. The various details such as the lifeboat and engine room vents could be moved about to resemble other boats. Some had staircases in the front beneath the pilothouse. Overall length is 15 inches.

Pennsylvania RR), both of which are generally similar in appearance to the Walthers model.

Incorporating a Car Float Operation

Even a narrow river at the back edge of the layout, and one or more tugs moored with a couple of office shanties can suggest a busy marine operation without having to find a place to put a 300-foot freighter. A railroad marine operation can be animated by actually loading and unloading car floats.

A yard with two or three tracks located as a branch or at the end of the mainline of a model railroad can service a floatbridge, creating a compact and useful interchange. A yard engine can be assigned to the float yard to pull cars off car floats. Floats can be docked (manually) around so an outgoing consist loaded on a float can be replaced with a car float loaded with incoming traffic to be made up in your yard.

In modeling an isolated shortline from the wilds of British Columbia to one in an urban area such as Chicago or New York, car floating makes an ideal operating interchange.

Walthers' Tugboat Kit

This kit is a re-run of the popular Walthers tugboat kit, first issued in 1998, and is the only injection-molded plastic model of a railroad tug. The kit builds a waterline model with flat bottom, making it easy to use on imitation water surfaces. The kit is molded in several colors of styrene plastic. Use a good plastic nipper to remove parts from their sprues, and an emery board or sandpaper to remove the gates off parts for the best fit. The handrails on the upper deck are made up of three molded parts, cleverly designed so two are mounted and the third is trimmed in place for an exact fit.

John Teichmoller, the well-known rail-marine author, identifies this kit as the Lehigh Valley Railroad's Wilkes Barre, which is virtually identical to sister boats *Bethlehem*, *Hazelton,* and *Capmoore*. Two similar LV tugs, the *Cornell* and *Lehigh* had lower outlines for use under bridges on the Harlem River. The pilothouse on this model has a recessed line on each side, permitting the modeler to lower it easily.

I couldn't decide which color scheme I wanted to use, so the model is shown in the actual colors of the kit, with only the pilothouse roof and details painted in Modelmaster Panzer Grey. I used the decals for New York Dock Railways tug *Intrepid*, because the red color looked good with the hull and deckhouse colors. (The prototype *Intrepid* is painted red, white, and blue)

Hauling a car float into a float bridge (docking) the tug gets to the shore end of the float to steer it gently into position. The four large receptacles at the end of the float match those on the float bridge, and large square rods are moved into place between these to secure the float to the flat bridge. Freight cars are not included.

Even a normal bump of mooring to such heavy craft as a car float laden with 15 coal hopper cars is enough to damage steel hulls, so all tugboats are equipped with impact diffusers called fenders.

In keeping with the prototype, there is a large fender at the bow of this model. I painted mine with Tamiya acrylic red-brown and then added a wash of black to show up the detail. Tugs used woven rope fenders until the 1950s when rubber side and bow fenders came into use. A bag of simulated used truck tires is included as an option. These were hung by ropes around the tube of the tire and secured behind the gunwales (top edge of the hull). Short lengths of tan thread or even thin brass or copper wire (not included) could simulate these ropes.

Nicely molded navigation light fixtures are included for the pilothouse, as well as a water cannon (for fighting fires), spotlight, horn, and mast. Additional towing lamps can be fitted to the rear mast, along with rigging, if desired, to suit your particular prototype. Neatly molded bollards for mooring are supplied.

In most cases, just painting and lettering this model for your favorite railroad will permit it to stand in for most of the diesel tugs used by the railroads. A very nice decal sheet is included which permits simulating the Lehigh Valley, New Haven, some Erie tugboats, and several other tugs used by various railroads. This is completely accurate for the LV boats with a level pilothouse deck and roof. Most of the other TAMS design tugboats have sheered pilothouse roofs, but the difference is not very noticeable on the model.

Some modelers may wish to make more changes such as a new stack or adding a fascia around the forward end of the deck railing to simulate the Consolidation design used by Lackawanna, Pennsylvania Railroad, and others. Aftermarket marine details are available from various manufacturers for super detailing or modifying this model.

Railroad tugboats much like these worked the harbors of cities such as Philadelphia, Norfolk, and San Francisco. Car floating was even done on many rivers, such as in Chicago and Pittsburgh. This type of tugboat is different, however, from the Mississippi River tugs that push barges.

Walthers' Car Float Kit

This kit makes construction of a very detailed model easy. This is a large model measuring a scale 261-feet

36-inches long, and requires careful assembly. I recommend using a steel straightedge to align the side panels to get them as straight as possible. The hull bottom end panels (part 1) have an angle that needed to be increased slightly in my kit. I held the bottom flat on the table and pulled the raised end upwards gently till it was close to the angle of the side panel. When glued, rubber bands or clamps can be used to hold the sides to the hull bottoms to insure that they will dry properly.

Assembled as shown in the instructions, small gaps between the side and end panels of the hull could result, but this is easy to solve. I assembled the sides, interior bulkheads, and ends of the hull upside down on a flat surface. After a few minutes to let the glue partly set up, I glued the two hull bottom end pieces in place (both end parts are called part 1). The interior bulkheads are a nice feature as they help align the parts and make a stronger model, which is important in such a huge plastic assembly.

When dry, I turned the hull right side up and glued each end panel of the deck to the hull leaving out the center parts of both the hull bottom (part 2) and the deck (part 8). Next I test-fitted the center hull bottom and center deck panel to the hull. I found that the center parts needed to be filed or sanded or cut down slightly to fit the space accurately, but this procedure avoided any gaps in the hull and made a neater model.

The plastic track on the float is usable for an active model because locomotives seldom ran out onto the floats, except for special movements. It may be possible to fit metal rails to this float if you must run locomotives onto it.

This is a huge model, but the kit designers anticipated this, and the center sections of the deck and hull bottom can be omitted along with one side panel from each side, creating a model about 24 inches long (175 scale feet in HO). Car floats were built in various lengths, so building a short one is not unprototypical. Prototype floats were generally painted black, oxide red, or other colors, and some had handrails, placard signs on their decks, or other details that can be made or found among the aftermarket marine part manufacturers.

I have not been able to determine the specific prototype of this model, but it is similar to many of the steel car floats used in New York Harbor and other areas. The model accurately portrays the standardized track plan of a New York Harbor craft, with three tracks, two of which made up the legs of a turnout.

This model could stand-in for Missouri Pacific, Frisco, Santa Fe or Reading car floats, or could be kitbashed to more closely resemble some car ferries, such as on the C&O, Canadian National, or Wabash on the Great Lakes, or the Southern Pacific (T&NO) at New Orleans.

Final Thoughts

When first offered in 1998, these were very popular kits, and after the first run was sold out, the tugboat kits were sold for $100 and more in auction.

These two plastic kits can help you simulate a whole marine operation on your layout, and can provide an exciting traffic interchange for your railroad.

Walthers has scheduled their car float apron kit (kit 933-3068) for re-release in July, 2009.

I spent a good part of my youth watching tugs like these on dozens of routes all around New York harbor, sometimes with a car float on each side working through the traffic of the harbor. Railroad marine traffic always had to share the waterways with coastal freighters, passenger ferries and with ocean-going traffic. Tugs like these are still in service in New York harbor between Brooklyn and Greenville (Jersey City) hauling car floats loaded with trains.

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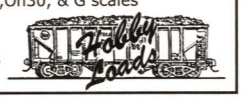

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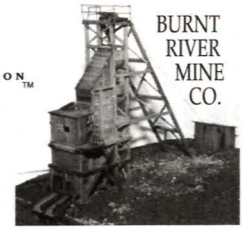

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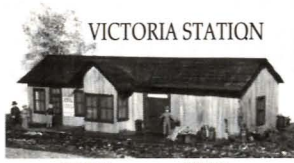

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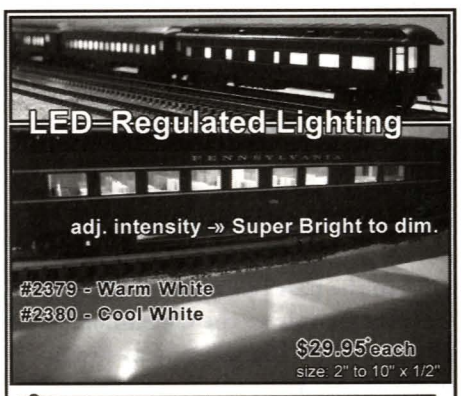

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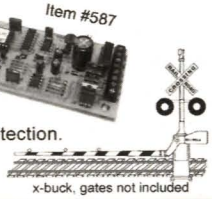

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REVIEW HO

Vollmer's Jeep Ready to Tackle Tough Terrain on Your Layout

Review and Photos by Bill Cawthon

Jeep Wrangler Rubicon (#1640), HO scale, white, MSRP: $9.99

Vollmer GmbH & Co. KG
Porschestr. 25
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Germany
www.vollmer-online.de

This 2007 Jeep Wrangler is one of the models in Vollmer's line of diecast vehicles. The HO-scale replicas are manufactured in China by Welly Die Casting Factory, Ltd.

WHEN I think of Vollmer, the image that comes to mind is structure kits based mostly on German buildings. But about a year ago, a line of diecast models wearing the Vollmer name appeared and a couple of American prototypes were listed in the assortment, including a replica of the 2007 Jeep Wrangler Rubicon.

The Jeep Wrangler is the latest iteration of the "truck, reconnaissance, 1/4 ton" that made its debut nearly 70 years ago. Since its introduction in 2007, the new Wrangler, now offered in two-door and four-door Unlimited configurations, has become one of the hottest-selling sport-utility vehicles in the nation, racking up a total of 203,858 sales in the past two years. In 2008, it was second only to the Chevrolet Tahoe in sales of traditional body-on-frame domestic SUVs.

The Jeep, for all its added luxuries, such as doors, air-conditioning, and automatic transmissions, is still the iconic American off-roader. While it's not quite as bouncy as it used to be, the Wrangler's ride still won't conjure up visions of a nice, comfy couch floating on marshmallows down the highway. On the other hand, it does inspire a sense of confidence that you will be able to get where you're going: no matter where you're going.

The Rubicon is the top-of-the-line model, named for Northern California's rugged Rubicon Trail, a course that every Jeep vehicle has to pass before it can earn its "Trail-Rated" badge.

Vollmer's Jeep

The Vollmer cars are actually produced by Welly Die Casting Factory, Ltd., a Hong Kong-based company that has been in the diecasting business since 1979. In fact, the imprint on the chassis identifies the model as a Welly No. 73122 with no mention of Vollmer. Welly makes diecast vehicles in a wide variety of scales and based on a nice selection of prototypes.

At first glance, the model looks like a decent diecast, comparable to the better ones that have come on the market in recent years. It's not until you give the model a closer examination that you realize this one is a step above some of the competition in many respects.

Comparing the model's measurements to factory specs, I found every major dimension to be within 1.5 scale inches of exact 1/87 scale. This includes the wheels and tires, an area where many replicas miss their mark.

The tooling is good, with well-defined body panels, and the interior is quite good; Welly even remembered the rear seats are higher than the front seats.

Since a lot of us like to customize our vehicles, I should tell you Welly uses a rivet-style fastening method to secure the chassis to the body.

Under the Microscope

The paint is where the model comes up a bit short. It's generally quite good; there are a few spots where it's heavy enough to start blurring the detail, but nothing is filled in. There are also some ragged edges where the matte black paint meets the white, but you really have to be looking very closely at the model to see them. At standard viewing distance, it looks fine. There were a couple of flubs in the detail painting on my model, most notably the driver's side fog light. I also think the model would have looked better had Welly painted the front roll cage supports black.

The silver printing is reasonably good, too, though it's uneven in places. The biggest problem with it is that Jeep uses silver on every color except white: on white vehicles, the print is just about black.

There are a few other booboos: First, the windshield opening is too small. For some reason, this seems to be a problem for everyone who has made a Jeep Wrangler model in HO scale. In this case, I imagine the extra-beefy surround is required by the limitations of diecasting in this scale. Second, the headlight openings are a bit undersized, measuring a little less than six inches in diameter. Third, the lug nuts are located out on the spokes instead of surrounding the hub. I checked all the factory-offered wheels and none of them are configured in this way.

I do have a problem with the method used to secure the model to the base of the presentation box. I have no idea why every Chinese manufacturer thinks HO-scale models must come in a presentation box. I realize the majority of sales in this scale come from European collectors, but I have never heard one of these collectors complain about the packaging used by European modelmakers. The rest of us just throw the fancy plastic boxes away.

In any event, Welly uses a small Phillips-head screw to keep the Jeep attached to its base. Unfortunately, this means Welly had to provide a space on the model for the screw to grip. So they molded an attachment point into the

The Vollmer Jeep has a nicely detailed interior complete with the innovative Jeep roll cage.

tooling for the chassis. When one removes the model from its base, one is left with a big, ugly, black box shape hanging down from the chassis. Worse, since it is molded in, surgery is required to remove it or at least shave it down, which is a shame as the chassis is otherwise beautifully detailed.

Overall Recommendations

None of these are major issues and they shouldn't spoil your enjoyment of this model or be an obstacle to buying it. I bought our review sample from Burbank's House of Hobbies and I am quite happy to recommend it. Vollmer's Jeep Wrangler is a very good model of a popular prototype and a welcome addition to the selection of HO-scale vehicle replicas available to the modern-era model railroader. Best of all, it's as close as your favorite hobby retailer.

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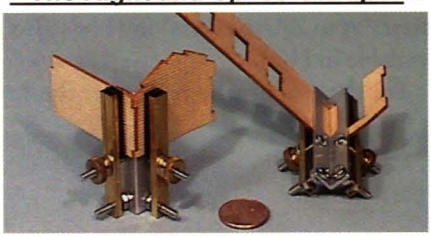

"The Mini Right Clamp"™ shown

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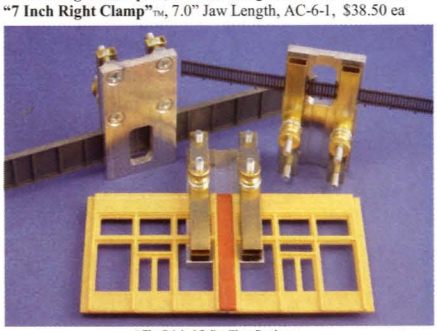

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Cabin Creek Company House

This company house was inspired by one from Pickshin, WV., and includes the piling to build it for a level surface or for a sloped location as shown. Interior partitions are included as are positionable doors and windows. This kit consists of laser-cut basswood, plywood, and detail castings. Approx. Size - scale 31' x 35'.

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REVIEW N

A LOT for the Money

Review and Photos by Al Skinner

A to Z Used Cars, N-scale laser-cut wood kit (#097), MSRP: $37.95
Footprint: Aprox. 2.10 inches wide by 1.33 inches deep
Also available in HO scale (#197), MSRP: $47.95

Blair Line, LLC
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www.blairline.com

Most of the pieces come as part of thin sheets of plywood veneer. Though this usually insures that the more delicate parts don't get damaged, as you can tell by the two pieces lying near the window parts sheet, you can break parts (like I did) if you're not careful. Included is a jig for assembling the lot's perimeter sign array.

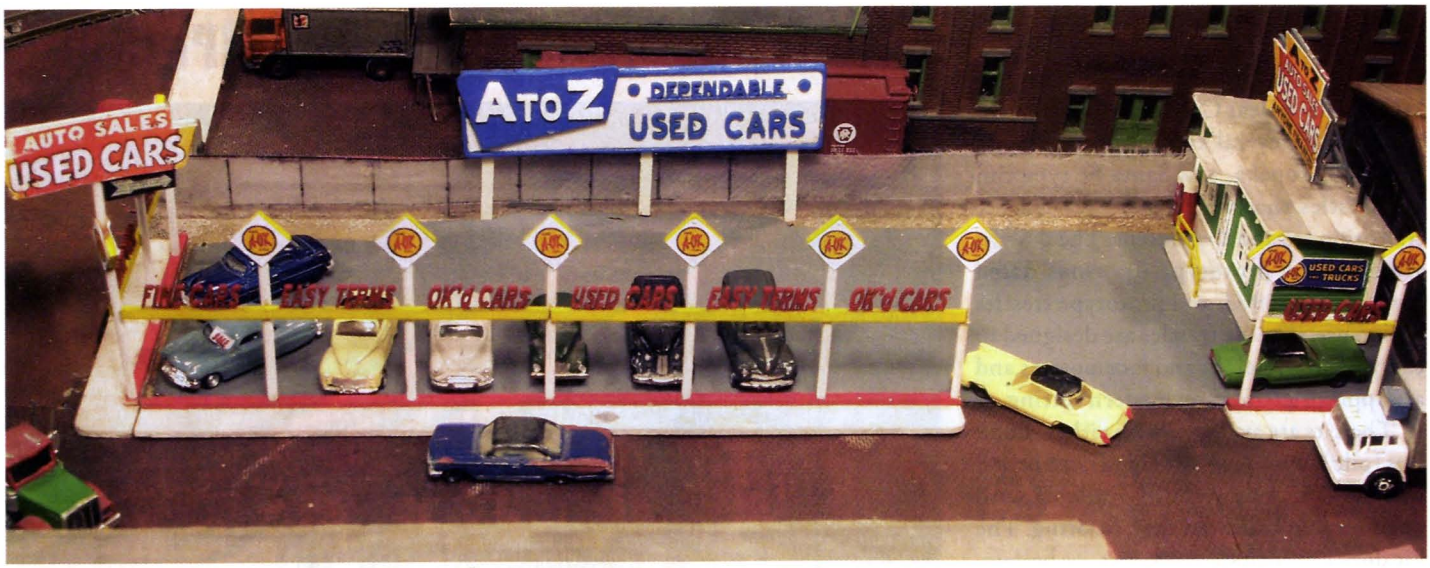
WHAT'S not to love about a Blair Line laser-cut kit? It's as much fun for us to put together and modify as it is for Dale Rush, the company's owner, to make them. Dale's fascination with old and unique structures has grown into a line of easy-to-build laser-cut wood kits in Z-, N-, HO-, S-, and O-scales that will hold the interest of modelers from every skill level. I've had the pleasure of building several Blair Line kits, and for this review I was given the latest: "A to Z Used Cars" in N (it's also available in HO).

For those of us who remember the days when "pre-owned certified vehicles" were called "used cars," this kit re-captures the look and feel of those gaudy lots filled with shiny older models touting prices too good to pass up. Though this kit is not based on any particular prototype or car dealer, it has enough reality to it to tickle your memories. No vehicles are provided with the kit.

Let Me Show You How Easy It Is To Own One

For people who've never built a laser-cut kit, or have only worked with the old "pile of sticks and instruction sheet" wood kits, they seem to be an overwhelming clutter. Various shapes and pieces are cut into thin sheets of plywood in a cookie-cutter fashion. Bags contain other pieces.

Here is the kit "as built," arranged in a square configuration. The auto is included to give a sense of scale. It does not come with the kit!



For one possible variation I created a long narrow car lot with more of an 'urban' feel: a tall, two-sided modified main sign at the corner, making the two word-bearing façade signs meet, posts instead of the supplied A-supports for the large billboard to take up less space – and isn't that a Kooka-Cola machine back there?

But the instruction sheet diagrams exactly match each wood slab and plainly assign numbers or letters to every piece. Once you familiarize yourself with this system, you'll have no trouble with assembly.

The instructions say to prime and paint everything before starting. That's good, but some subassemblies will be all one color so I suggest you glue them together first before painting them. One example is the steps, foundation, and step wall for the office. Go over the instructions to find other subassemblies. One omission from the painting instructions is the colors for the sign poles and the smoke jack. Please note that the listed colors are, as stated, only suggestions. I chose colors that didn't match the picture on the box.

Also, you may notice that the wood sheets are marked with carets (^) at the points where the individual parts are attached. They mark where the modeler should cut with a sharp pointed blade to release the parts. This is not mentioned in the instructions, but it's good to know.

Have I Got A Deal For You

The secret of a laser-cut kit is the pieces all go together easily. When completed, the model is much like a locomotive with separately applied details in that it looks much better than one with all cast-on parts. The instructions make it ridiculously easy to do all this detail work. With clear drawings and adhesive backing on the small pieces and signs, it's no-muss-no-fuss construction. Larger pieces, like the office walls and the large signs, are glued together. Detail isn't just in the assembly of separate pieces; the manhole covers etched into the sidewalks are beautiful little works of art that feature the texture as well as the look of a steel surface.

Though I quickly breezed through the assembly, I did hit a few small glitches:

In Step One, the instructions say to "attach window frames to wall" but I think it means glue them in. In the N kit, at least, the windows/sashes plug exactly into the window holes and there's no adhesive on the part edges.

In Step Two, while I have built other laser-cut kits, this is the first one that had a relatively thick piece of wood as a part (Foundation F1). I found the ends of this piece sucked up paint as fast as I applied it. Perhaps a pre-sealer resin of some kind should be applied first?

Sign Up Now

Signs in kits usually don't have much of a part to play. But in this one they definitely are a part of the visual impact. Overall, sometimes the signs in kits are problematic: incorrect size, shiny and fragile decals, or paper-printed with fuzzy details and blurry resolution. This kit for the most part avoids all these. In a nod to extra detail, one of the two main sign versions has holes for where neon light tubing was installed. But I did wonder if the signs "Low Mileage," "One Owner" and the like, were meant to be posted on the windshields of the cars because each sign is easily twice or more the size of an entire windshield.

Let Me Show You What This Baby Can Do

I can't finish a review of a laser-cut kit without saying that it can be, outside of kitbashing or scratchbuilding, the best expression of your personal tastes. In fact, I'd claim that this seems to be designed into "A to Z Used Cars." Multiple versions of signs, signpost holders and bases, and sidewalk sections let you build a facility than can fit into any small or odd-shaped lot — and most layouts have their share of such spaces. Even though the sidewalks line up at right angles, by cutting down the sidewalk sections, then one or both ends at angles, the modeler can squeeze this kit into that weirdo street corner by the tracks where no other structure looks right.

It's supposed to be a no-no in product reviews to show anything other than the product's as-built version, but I just had to show you one of the many variations you can make. Sorry: the fun of "what if?" was just too strong. Now if somebody in N-scale could come up with a way to make strings of those triangle-shaped pennants that were hung across the lot....

How'd You Like To Try It?

Besides the obvious shapes possible with the site footprint, this kit, like other laser-cut kits, gives you less-obvious options like partially-opened window sashes and propped-open doors. With a wealth of signage and limitless variety of paint schemes, and arrayed with your particular collection of vehicles, "A to Z Used Cars" may turn out to be the most self-expressive — and fun — scene on your layout.

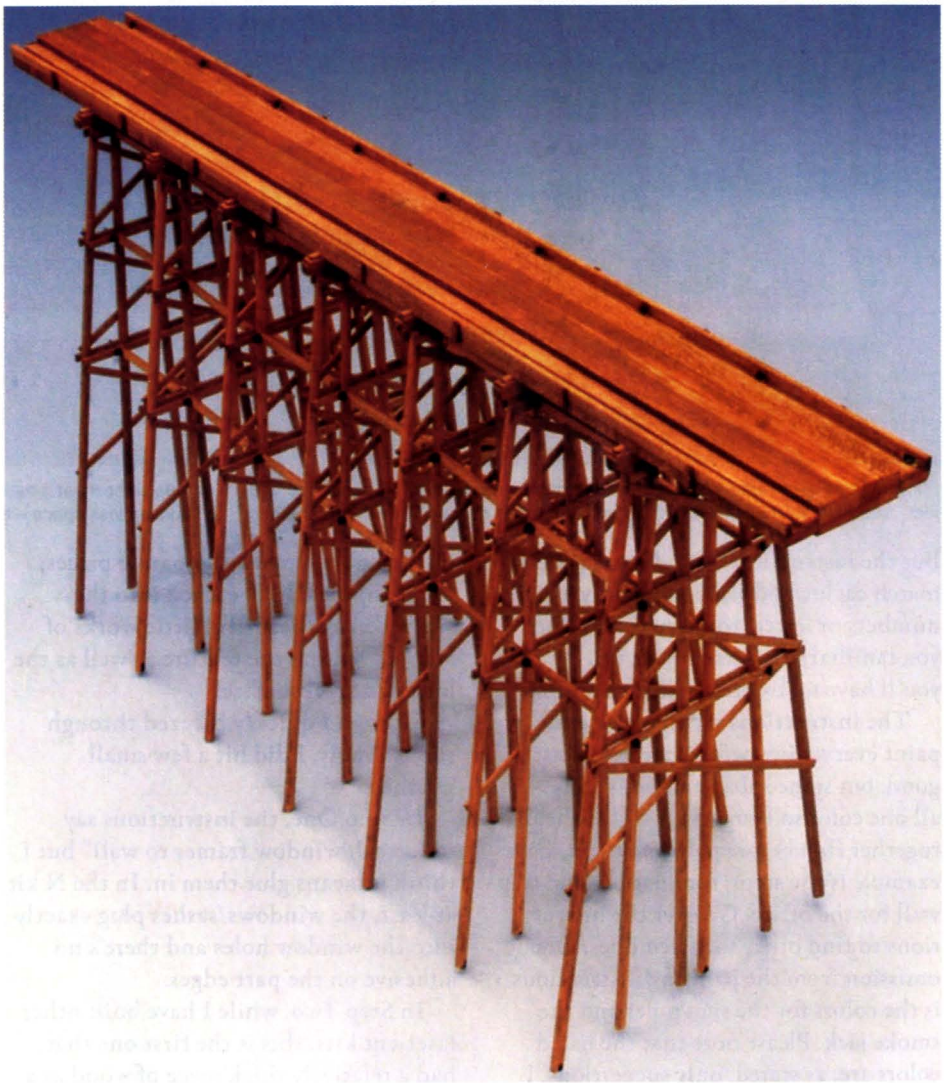
New Trestle and Jig Kit from Black Bear Construction

HO — Black Bear Construction Co., Inc., has released several kits designed to build Atchison, Topeka, and Santa Fe type timber trestles that were built between the transition era and the present. The designs are based on prototype drawings dated from 1949 to 1963, and prototype trestles still in use. The six trestles are designed to carry modern freight and locomotives and are appropriate for any modern setting.

The kits are available with either round legs (pile bents) or square legs (frame bents). The AT&SF kits are also available with open deck or ballasted deck flooring. The kit does not include track, ties, or ballast.

All the kits include the Six Leg Trestle Jig (#TJ-6LHO), which may also be purchased separately. One trestle kit builds seven, six inch tall bents that span about 15 inches. The round leg, ballasted trestle kit (TJK-6SFRB-HO) retails for $55.67, or $22.72 for materials only. The square leg ballasted deck trestle kit (TJK-6SFSB-HO) retails for $54.51, or $21.46 for materials only. The round led open deck trestle kit (TJK-6SFRO-HO) retails for $51.98, or $19.03 for the materials only. The square leg open deck trestle kit (TJK-6SFSO-HO) retails $50.72, or $17.77 for the materials only. All the kits are available for jig only for $32.95.

Black Bear Construction Co., P.O. Box 26911, Austin, TX 78755-0911; 512-467-8400; Fax: 512-985-5110; E-mail: barrett@blackbearcc.com; www.blackbearcc.com



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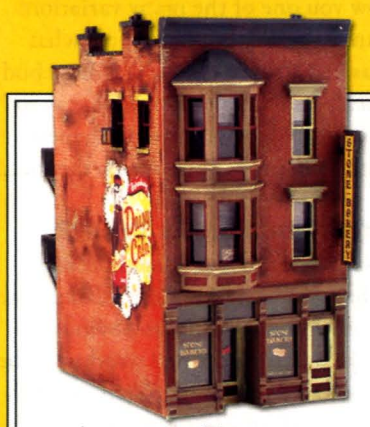

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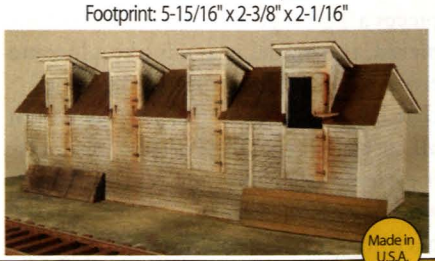

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"It's better at the Box"

Summit releases new Jack In The Box restaurant in HO

HO — Summit USA has released their newest kit, the Jack-In-The-Box Restaurant kit, an outstanding new building that can be found in many towns and cities across the nation. This kit includes all building parts and signs. The parking lot base is not included, as the modeler will make it to fit their layout space. The suggested retail price is $69.95.

The kit is milled in white and black styrene plastic with clear acrylic window glazing and comes with Plastruct metal siding and cutting templates for the awnings and signs, as well as self-adhesive decals and detailed assembly instructions with pictures. All parts fit together but may need light sanding in joints for cosmetic reasons. The model needs painting.

Some model building and painting skills are required. The kit measures 7-1/2 inches by 6 inches by 3-1/2 inches (185 by 150 by 85 millimeters).

Suggestions and a description of how to make a parking lot base can soon be found on Summit's web site. Custom Cuts by Summit is a supplier of HO- and N-scale structures and accessories.

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REVIEW G

Populate Your Layout with Eye-Catching Scenes

New large-scale figures from Woodland Scenics will have you whistlin' a happy tune

Review and Photos by Bill Cawthon

Whistle While He Works, 1/22.5 scale (#A2568), MSRP: $22.99

Woodland Scenics
P.O. Box 98
Linn Creek, MO 65052
573-346-5555 • Fax: 573-346-3768
www.woodlandscenics.com

Among the latest large scale figure sets from Woodland Scenics is "Whistle While He Works," a group of miniature people with lots of potential, at least in terms of adding life to your layout. On these figures, Woodland Scenics has added too much white around the irises, making them more caricatures than replicas. Also, the ears on the figure on the left are much higher on the skull than a real human's ears. The eyes on the figure on the left can be fixed with a little paint that matches the skin color, but the guy with glasses is pretty much out of luck.

LOOKING through the Woodland Scenics catalog at the sheer variety of figures they offer in scales from N to G, it's easy to believe that the folks in Linn Creek have a goal to cover almost any of life's situations in several scales.

Whistle While He Works

One of the more recent releases in large scale is "Whistle While He Works," a scene we have all either witnessed or in which we perhaps have been participants. A trio of figures and a simulated dirt pile come with the set.

In the package, the scene reminds me of various government work sites I have seen. One person is digging and looks none to happy about it while his supervisor muses and a passer-by appears to be whistling, just to cheer the worker up. The fellow digging has already removed a good bit of dirt, but the look on his boss' face makes you wonder if perhaps the excavation is going on in the wrong place. The expression on the face of the "excavation technician" makes it clear he's probably going to be replacing all the dirt he's worked so hard to dig up and he knows it.

The figures are all completely decorated down to the "CITY" lettered on the supervisor's hardhat and they are ready to use on your layout or in your garden railway. The "Whistle While He Works" set would lend itself to a number of amusing scenes in a garden.

Checking with the calipers, it appears the figures scale out to about 1/22.5, one of the many scales lumped together in G-scale model railroading.

The Woodland Scenics figures are an excellent value in comparison to large-scale figures from some other manufacturers where the per-figure price can approach twenty dollars. With that in mind, I don't expect the same level of sculpting or finish. That being said, there were a few things that caught my attention. First, as you can tell from the photo, the man with the shovel and the whistler are African-American. When they were painted, great care was taken to make sure the white in their eyes surrounded the iris. It makes the figures look a bit cartoonish, especially the fellow with the glasses. In the real world, you don't see more of the sclera (that's the white part of the eye) in the eyes of a person of African descent than you do in the eyes of a Caucasian, Polynesian, or any other race. It may stand out more on those with darker skin tones, but that's due to contrast, not size.

The eye is a feature that those who paint figures, even large scale figures, often get wrong. For one thing, you very seldom see the entire iris as the upper and lower eyelids obscure it. For another, the entire eye is generally shadowed by the upper eyelid, meaning the actual "white" area you see is fairly small. For our purposes, even a large-scale figure can get away with just a hint of the sclera, then a small dot of color for the iris, followed by defining the eyelid on top of the other two. To get a better idea of what I am saying, take a look at some photographs of people, especially outdoors.

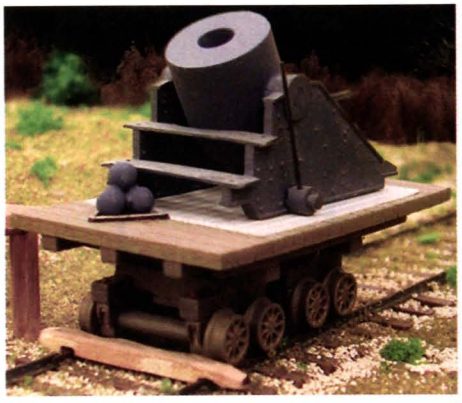
While there isn't much to be done for the whistler, a bit of paint matching the shoveler's skin tone will make his eyes much more believable.

The other thing that I noticed is that whoever made the masters for this set is a bit fuzzy on where ears go on human beings. Those on the fellow with the glasses are just about right, but those on the other two figures are too high. From my days as an illustrator, I remember that the ear falls generally in an area between parallel lines drawn from the center point of the eye and the bottom of the nose.

Overall

Of course, from a typical viewing distance, none of these flaws are readily apparent and the figures look just fine. Overall, the "Whistle While He Works" set is well done and a worthy addition to the Woodland Scenics line. It's definitely deserving of serious consideration the next time you visit your favorite hobby retailer.

Civil War Mortar and Flat Car Released from BTS



O — BTS has released a Civil War flat car with a mounted mortar. The flat car body length is a scale 14-feet 2-inches. The flat car model consists of laser-cut wood and cardstock components with hardware in plastic and lost-wax brass castings. The O-scale version includes truck parts for building it either in P48 or standard 5-foot O scale. The *Dictator* mortar and flat car (#19506) retails for $49.95. The mortar (#17802) alone retails for $32.95.

The mortar is made from urethane castings and features a positionable barrel. The kit includes a walkway and car stop. This model is intended to be a static piece of scenery and is not designed for operation.

BTS says, "According to notes on civilwaralbum.com, General Grant's forces used the 13-foot mortar during the siege of Petersburg. The mortar required 14 pounds of black powder to throw a 225-pound ball two miles into Petersburg. The ball was fused to explode at tree level and was filled with 11 pounds of powder. It was called the *Dictator*. Originally mounted on a special reinforced flat car, it was moved by Union forces by rail. Its use in the Petersburg siege was limited to four months, being fired only 218 times by the 1st Connecticut Heavy Artillery." The fate of the original *Dictator* is unknown.

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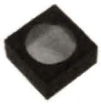
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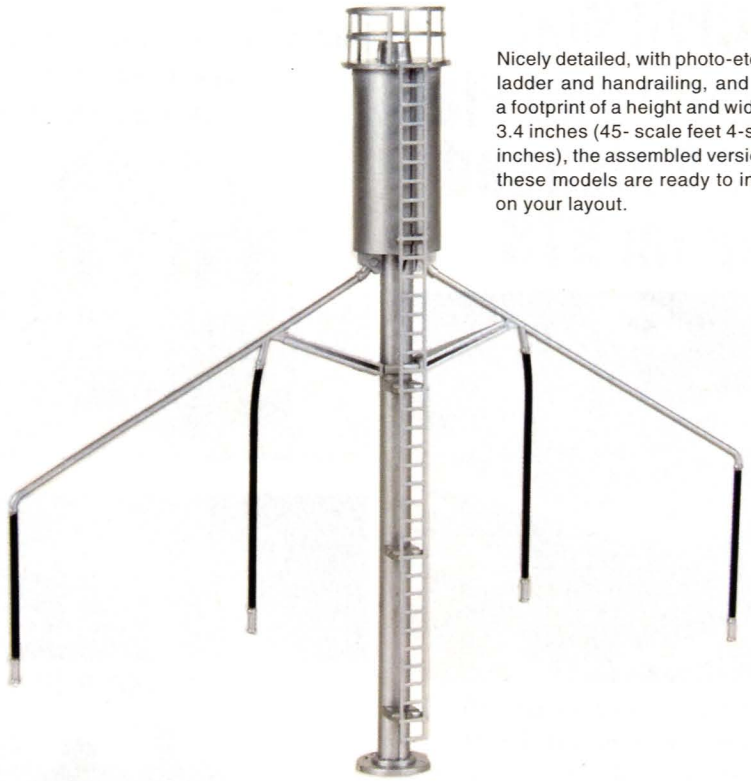
REVIEW N

American Limited Model's Diesel Sand Towers

New towers make it quick and easy to set up an engine service facility



Nicely detailed, with photo-etched ladder and handrailing, and with a footprint of a height and width of 3.4 inches (45- scale feet 4-scale inches), the assembled version of these models are ready to install on your layout.

Review by Art Lake
Photos by Phil Scandura

Diesel Sand Tower – Assembled (#5600), MSRP: $22.95
Diesel Sand Tower – Kit (#5160), MRSP: $8.95

American Limited Models
P.O. Box 7803
Fremont, CA 94537-7803
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www.americanlimitedmodels.com

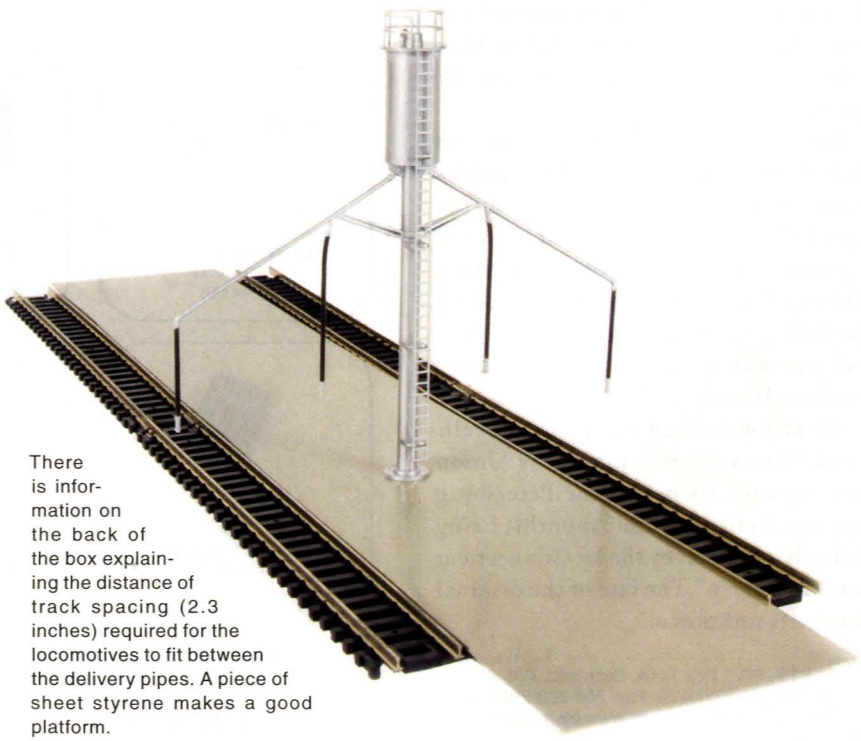
SINCE its founding in 1992, Bob Fingerle's American Limited Models has been producing innovative model railroad products like the first operating passenger car diaphragms in HO scale. Now American Limited Models has brought out a very nice N-scale diesel sand tower that will help you set up a small servicing facility in almost no time at all.

The Need for Diesel Sand Towers

One of the procedures for servicing diesel engines is the refilling of the sandboxes. Most modern locomotives have sensing devices and automatic equipment that blows dry sand onto the rails in front of slipping wheels. The amount depends on how hard the engine is working. In the early diesel era, railroads bought ordinary sand from local sources. The sand was dried and blown into elevated sand hoppers with compressed air. In recent times, railroads have switched to purchasing pre-dried silica sand. The sand is usually shipped in specially equipped covered hoppers that can be connected to the sand delivery system. Compressed air forces the sand into the overhead bins. The overhead bins, which are usually about 35 to 40 feet above track level, have a system of pipes that carries the sand down to the engine using gravity and air pressure. Various platforms and step arrangements are used to provide easy access to the engine's sand filler boxes. Large hoses with special valves at the bottom ends are used to make the final delivery to the locomotive.

The American Limited Assembled N-Scale Diesel Sand Tower

American Limited markets their N-scale diesel sand tower in both kit and built-up versions and supplied a pre-assembled model for this review. Nicely detailed, with photo-etched ladder and handrailing, these models are ready to



There is information on the back of the box explaining the distance of track spacing (2.3 inches) required for the locomotives to fit between the delivery pipes. A piece of sheet styrene makes a good platform.

install on your layout and the kit is a quick, one-evening build to get your engine service area rolling.

The review sample was typical of the types used for servicing a two-track arrangement. The sand tower is a generic design with the aim to represent the type of sand towers that were in operation over a long period of time. There is information on the back of the box about the size of the sand tower (3.4 inches) and also explaining the distance of track spacing (2.3 inches) required for the locomotives to fit between the delivery pipes. The mounting of the tower is pretty straightforward; cementing to a styrene sheet sanded and painted to represent concrete.

Final Thoughts

American Limited has always produced some very detailed, high-quality products for model railroaders, and these sand towers are no exception. Years ago, when building my first layout, I had to scratchbuild many of the engine servicing facility structures because there were not many available at the time. Now, there are a number of these items on the market in both kit and fully assembled forms.

If you like building kits, the diesel sand tower kit 5160 is the way to go. It is marketed to be an easy one- or two-evening project and is priced at $8.95. If you want a ready-to-install sand tower for your layout engine servicing facility, then purchase the assembled version of the same sand tower No. 5600 at the price of $22.95. Both are of good quality and detail, and you will not be disappointed. Both of these fine products are available now at your local dealers.

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Project DCC - Integrating Operation and Automation
Part, 10B, Manual Computer Control using Layout Commander and Train Controller

— By Phil Scandura

Last month we discussed manual control using Panel Pro and STP. This month we continue with coverage of Layout Commander and Train Controller.

Layout Commander

KAM Industries' Layout Commander displays your layout diagram using a plan style, instead of a CTC panel style (for this you'll want to try KAM's Classic Panel software package instead). Before creating the diagram, however, it's best to configure KAM's client-server architecture. Recall that software applications (clients) make requests to another software application (the server), which then fulfills the request on behalf of the client. Included with all KAM products, the Train Server application acts as the server, providing a standard interface between the various software clients and the DCC system connected to the computer. Layout Commander is the client, sending generic commands to Train Server who then interprets them into the proper format for the target command station (in our case, the Lenz system).

Configuring Train Server is fairly easy using the supplied wizard and you should be able to accept most of the default settings. Once configured, Train Server must be started before any other KAM application.

When you start Layout Commander, it connects with Train Server first, at which time you specify the types of sensors (block occupancy detectors) and switches (turnout controllers) that you are using. One shortcoming of the user's manual is that no guidance is provided to explain how to choose the proper types. While the sensor type was easy (the **Lenz** configuration only uses LR101s), the switch setting was not. Our layout uses both the **Digitrax** DS64 on the left leg and Lenz LS150 on the right leg to control turnouts. After consulting with KAM technical support it was determined that "Lenz:LS150" was the correct choice. Even still, we had some problems with this setting. When throwing turnouts connected to the LS150, Layout Commander seemed to keep them energized longer then necessary causing the solenoid coils to warm up and deform the plastic case of the Atlas switch machines. The Kato turnouts connected to the DS64, on the other hand, operated flawlessly. KAM is working on a fix that should be available in a future software release.

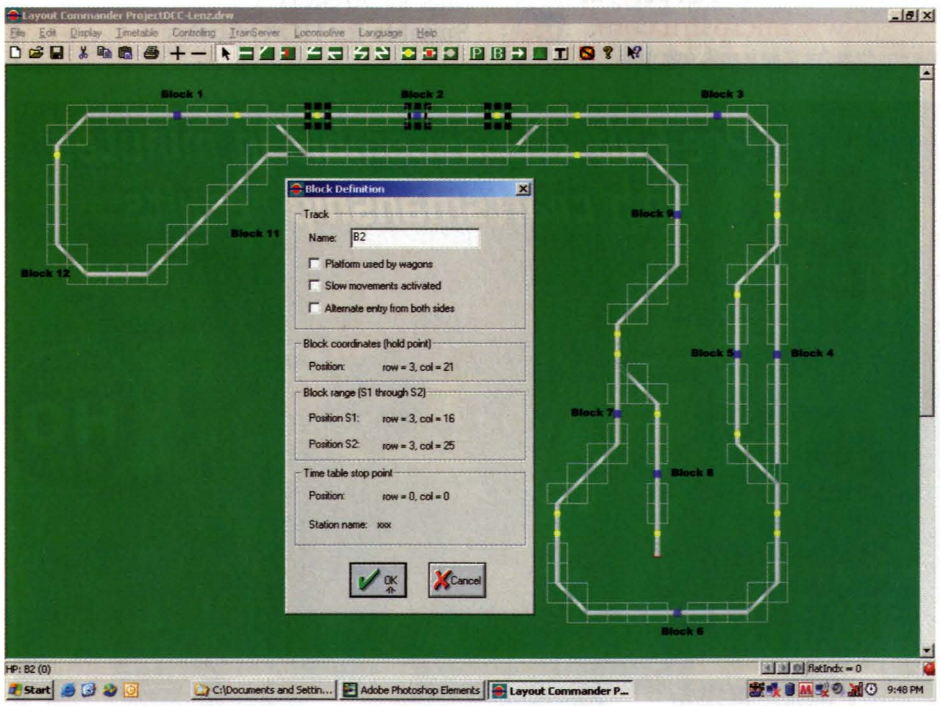

Figure 1 - Each pair of sensors must be associated with the hold point they protect in order to define a block. Layout Commander does this automatically when you double-click on a hold point, highlighting the hold point and associated sensors. All you need to do is name the block. There are times, however, when this doesn't work correctly. As explained in the text, there is a work-around that works every time.

Layout Diagram Creation

Creating a layout diagram with Layout Commander is very easy, simply choose a track element from the tool bar (such as straight, curve, turnout, etc.) and place it on the diagram area. The selected element is "remembered" so you can click or drag to place additional elements, such as creating a long siding consisting of individual straight tracks. In this respect it works very similar to a drawing program. Shown in **Figure 1** is the completed Project DCC layout drawing, in the process of being configured. I chose to draw the layout close to the actual geometry of the real layout, but this isn't required. I could have easily drawn it in a linear fashion (think CTC panel), although it would have scrolled off the screen. To deal with this, Layout Commander provides virtual connectors that let you break the drawing into pieces, for example placing the left leg on the top of the screen and right leg on the bottom. Then in operation, the virtual connectors tell the program how to follow the train around the seemingly broken diagram.

The yellow dots on our layout diagram represent occupancy detectors (Layout Commander calls them "sensors") and the blue squares represent track blocks between them, called "hold points." Looking at Block 2 for a moment notice that it shows a sensor at each end, yet the layout itself only has one sensor for Block 2. This is because Layout Commander defines a "block" as the track between two sensors.

This is different from the actual layout wiring of Project DCC that uses a single sensor to indicate the occupancy of a block. Here is a second example in which a software package assumes a specific wiring configuration of the layout. By using entry and exit point sensors, Layout Commander's automation feature can determine the direction of a train as

it moves around the layout. This feature is not required, however, so if your blocks only have one sensor (like Project DCC) you would still draw two sensors on the diagram, but assign both to the same physical sensor.

Software Configuration

Similar to other software packages, you must assign the active elements (turnouts and sensors) to their physical DCC devices on the layout. Here just double-click on the element and "fill in the blanks." In most cases Layout Commander populates many of the fields with default values, leaving you only a few fields to enter.

Layout Commander uses NMRA base addressing to access turnouts and sensors, consisting of a module number and output function number. Turnouts, for example, have four output functions per module as listed in **Table 1**. When configuring a turnout, you can enter the module/output function and let it determine the turnout number for you, or you can enter the turnout number and let it determine the module/output function. On the Project DCC layout T1 and T2 are wired together as a crossover pair, as are T3 and T4. Layout Commander doesn't provide a way to "link" them or treat them as a crossover, so I configured T1 and T2 with the same turnout address, likewise for T3 and T4, that way clicking on either turnout image causes the pair to flip.

Configuring sensors is similar, except that you must enter the module and function numbers directly as listed in **Table 2**. Once the sensors are configured, they must be associated with the hold points they protect in order to define each block. Layout Commander does this automatically when you double-click on a hold point. At least, it does so sometimes (this is one of the quirks I mentioned previously). When it operates correctly, double-clicking on a hold point brings up the block definition window and also highlights the two sensors and hold point, as shown in Figure 1; then all you have to do is name the block. The problem, however, is it can only do this when the two sensors and hold point are all "in a row." It doesn't work correctly around curves, across virtual connectors and across turnouts. Since we'd like to place the sensors on the drawing at the actual entry and exit points of the block, this presents a problem.

Luckily the work-around is fairly simple. During the drawing process, place the two sensors immediately on both sides of the hold point (that is, sensor, hold point, sensor). Later when you perform the configuration step first configure the two sensors, then configure the hold point, ensuring that Layout Commander properly highlights all three. Once you have the hold point configured, you can now use the drawing editor to drag each sensor to its desired location on the layout drawing; it will keep the association with the hold point. You can confirm this by double-clicking on the hold point after moving the sensors. All three should still be highlighted (if not, you'll need to delete the sensors and start over). Unfortunately, even though Edit Menu includes an UNDO

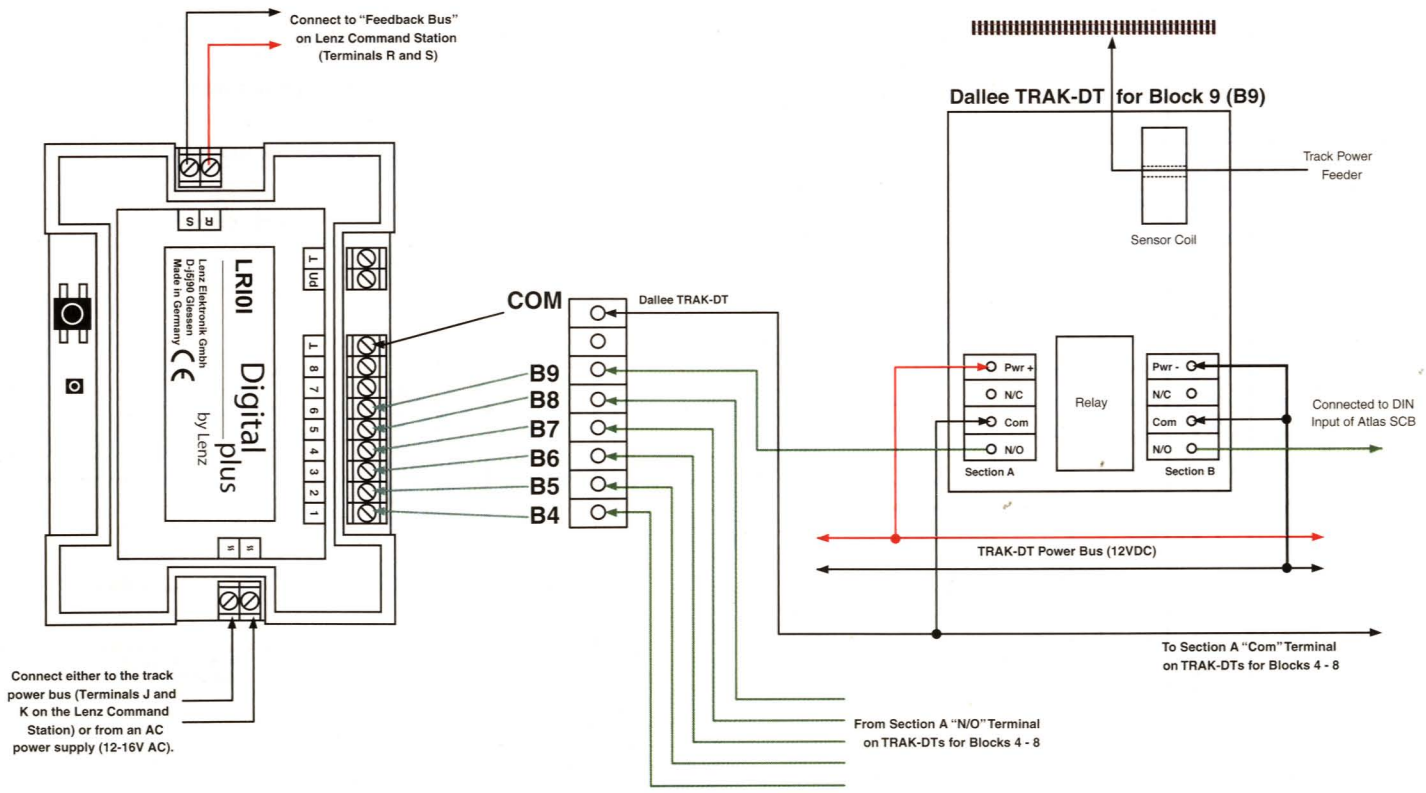

Figure 2 - When configured for the Lenz DCC system, block occupancy status is fed to the DCC system using a Lenz LR101 feedback encoder. For the left leg of the layout, the output of each Lenz BM3 block and signal module is wired directly to the LR101 following the standard Lenz instructions. On the right leg, however, a different method must be used to connect a second LR101 to each of the Dallee TRAK-DT detectors used in the Atlas signaled area. Shown here is the necessary wiring between the TRAK-DTs and the LR101. The closing of the TRAK-DT relay completes the circuit between the respective LR101 input and ground, which causes the LR101 to report an occupied block on the Feedback Bus to the command station.

command, it doesn't seem to do anything in Layout Commander.

Layout Operation

Now that the layout diagram is complete, you must define the locomotives that will be operated on the layout, assigning names, icons, and DCC addresses to each, after which you can change modes so that Layout Commander can communicate with the layout. To do so choose CTC Mode from the Locomotive Menu, at which point Layout Commander runs an error check to ensure all turnouts, sensors, and block are correctly defined (if not, error messages are displayed telling you what needs correcting). Once in CTC Mode, virtual throttles are displayed for each defined locomotive so you can control them manually. As the trains travel the layout the yellow sensor dots change color to red to show occupied blocks. Turnout position is controlled by clicking on the diagram. As a side note, once in CTC Mode the only way to return to layout editing mode is to exit the program and restart it.

Train Controller

Train Controller from Railroad & Co. displays your layout in plan view, showing block occupancy, providing turnout control and supporting trackside signals. It also supports virtual throttles for manual control of your locomotives.

Layout Diagram Creation

Creating the layout diagram is intuitive and very easy. So easy, in fact, that I did much of the drawing before reading the tutorial (of course, you'll want to follow the tutorial to get a clear understanding of the features of Train Controller). Supported by a tool bar, simply pick and place elements on the diagram, or use the mouse to draw lines and create turnouts automatically by drawing diagonal lines between two parallel lines. Shown in Figure 4 is the completed Project DCC diagram. One thing to note is that I've drawn the reverse loop without using diagonal track segments. Train Controller uses "traffic boxes" to display the occupancy status of blocks, displaying text and changing color when a train is detected. Because of the text display they can only be placed horizontally or vertically, not diagonally. Here's an example where you need to plan ahead while drawing your diagram.

Software Configuration

Once the diagram is complete you'll want to configure the turnouts and blocks so that Train Controller can associate them with the DCC hardware on the layout. In the discussion that follows, the layout was configured for the ZIMO DCC system. We also performed the same steps when configured for the Digitrax DCC system, without any major obstacles (**Figure 3**).

Train Controller addresses turnouts using accessory decoder addressing. Here the Digitrax DS64 is programmed to address '03' controlling turnout addresses 1, 2, 3, and 4. The Lenz LS150 is programmed to address '02' controlling turnout addresses 1, 2, 3, and 4.

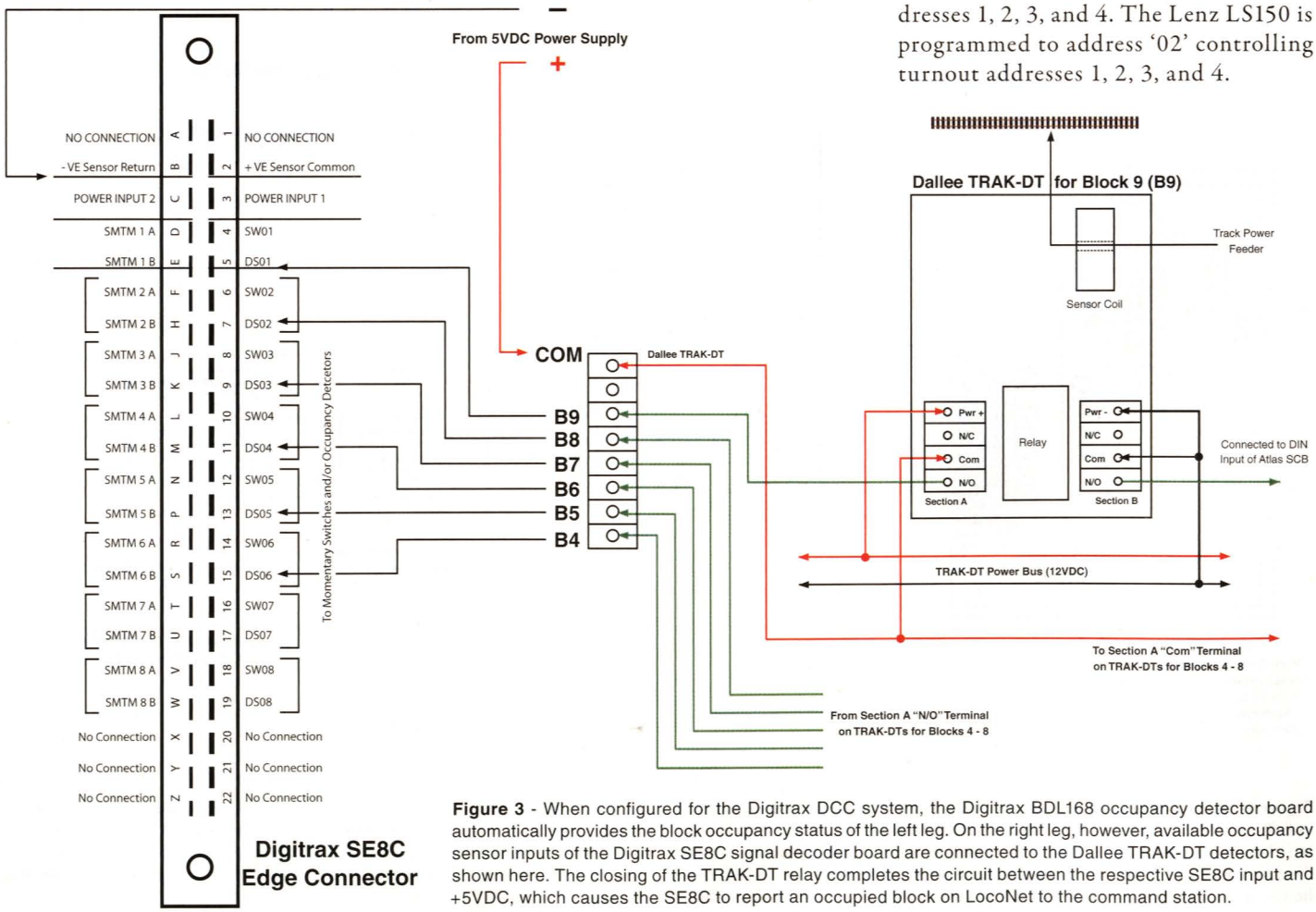

Figure 3 - When configured for the Digitrax DCC system, the Digitrax BDL168 occupancy detector board automatically provides the block occupancy status of the left leg. On the right leg, however, available occupancy sensor inputs of the Digitrax SE8C signal decoder board are connected to the Dallee TRAK-DT detectors, as shown here. The closing of the TRAK-DT relay completes the circuit between the respective SE8C input and +5VDC, which causes the SE8C to report an occupied block on LocoNet to the command station.

Configuring occupancy detectors is somewhat different than the other software packages. First you must create a "contact indicator" (basically a sensor) and assign its associated DCC address. Then you attach the contact indicator to a traffic box (read the tutorial for complete details). One advantage to this method is the ability to assign multiple sensors to a traffic box. When wired in the ZIMO configuration, recall that each block is divided into two sections (driving and braking) in support of automatic operation. From a layout diagram perspective, however, there's no need to show a separate traffic box for each section (although you could). Instead just create one traffic box for the entire block and assign both sensors to it.

While the majority of the configuration activities went smoothly, when it came time to configure the signals things got quite bumpy. Recall from our installment on signal system wiring (Part 7B) that we are using the ZIMO MX8S Accessory Module to drive our three-color signals, since the MX9V Track Section Module can only drive two-color. Because of this, we need to associate the block occupancy status from the MX9V to the appropriate signal aspect driven by the MX8S. While this should be fairly straightforward, the difficulty arose when it was discovered that Train Controller only supported the 16 paired functions mode of the MX8S (typically used to drive turnouts). Since we were using the MX8S in 32 single function mode (one function per signal LED) it wasn't clear how to associate MX8S control addresses for each LED in the Train Controller software. After a lengthy e-mail exchange with technical support it was determined that Train Controller would support our needs by means of a slight work-around. Since the software still treated the MX8S as sixteen paired outputs, the individual LEDs had to be addressed as 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, etc., instead of 1, 2, 3, 4, 5, 6 and so on. Then by unchecking the "pulse" checkbox the software knew to treat them as non-paired outputs. It was also helpful that we had connected our individual LEDs to the MX8S in a logical, sequential fashion (that is, Red, Green, Yellow, Red, Green, Yellow, Red, Green, Yellow, etc.); yet another example in which a software package assumes a specific wiring configuration of the layout.

Once we got the signal address mapping figured out, we used Train Controller's powerful logic editor to define when to illuminate the proper signal aspects based on block occupancy and turnout position.

Layout Operation

Similar to some of the other software packages, Train Controller provides virtual throttles for manual operation of your layout. Shown in **Figure 4** is the

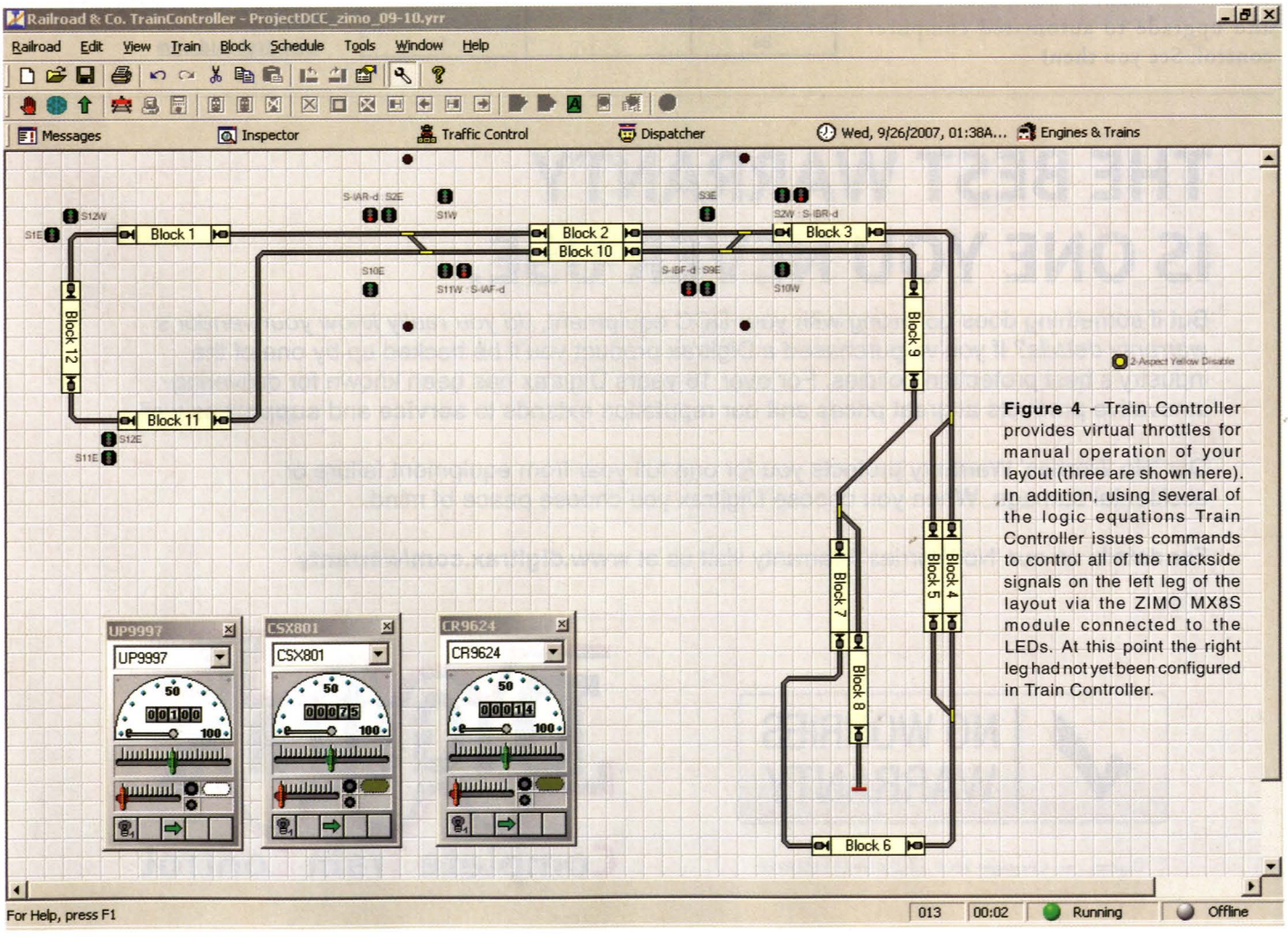

Figure 4 - Train Controller provides virtual throttles for manual operation of your layout (three are shown here). In addition, using several of the logic equations Train Controller issues commands to control all of the trackside signals on the left leg of the layout via the ZIMO MX8S module connected to the LEDs. At this point the right leg had not yet been configured in Train Controller.

layout in operation, including control of all signals on the left leg of the layout (the right leg had not yet been configured in Train Controller at this point). As the trains travel the layout, the traffic boxes change color to indicate occupancy.

Coming Next Month

Whew, parts 10A and 10B contained a lot of information! Perhaps I've given you the feeling that adding the computer control element to our Project DCC layout was the most work by far. Truth be told, it was. In fact, the various complications and numerous calls to technical support overshadowed any of the hardware problems I came across while building and wiring the layout. Of course, I had to deal with four different software packages and three different DCC Systems; you'll only be dealing with one of each! Still, I hope I haven't scared you away. Please join me next month as we build upon our work with manual computer control and upgrade to automated computer control. See you then!

Table 1 - Switch Address to NMRA Base Address Mapping

	NMRA Base Address	
Switch Address	Module Number	Output Function
1	1	1
2		2
3		3
4		4
5	2	1
6		2
7		3

Table 2 - Layout Block to NMRA Base Address Mapping

	NMRA Base Address	
Layout Block	LR101 Address (Module Number)	Status Bit (Output Function)
B3	65	1
IBR		2
B2		3
IAR		4
B1		5
B4	66	1
B5		2
B6		3
B7		4
B8		5
B9		6

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Layout Commander software (Version 4.30.312); MSRP $169.00

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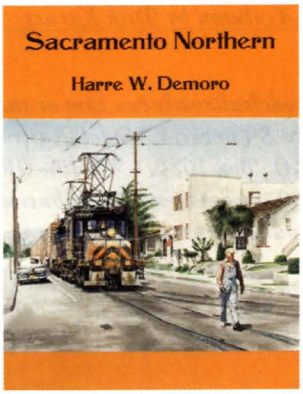

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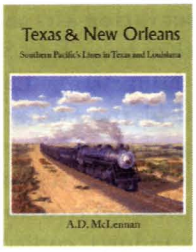

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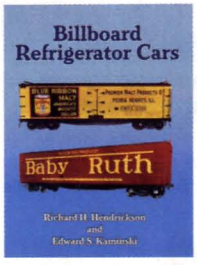

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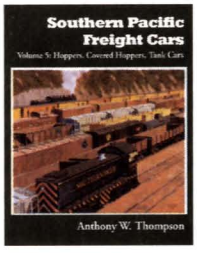

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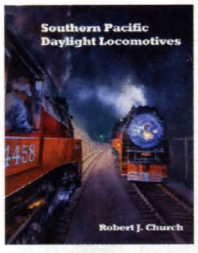

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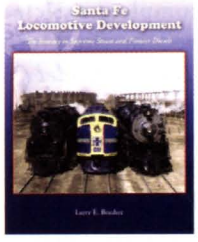

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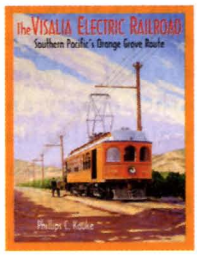

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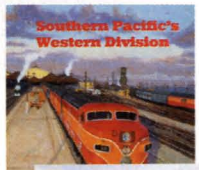

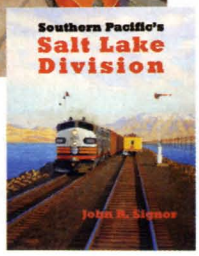

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Other Resources, Part 3: Buildings

CURVES
FOR AND ABOUT S-GAUGE MODEL RAILROADING
A column by Dick Karnes

LOTS of modelers in S and O have various bashes of the **Korber** HO powerhouse on their layouts. This is indeed a huge structure. **Figure 1** shows some walls from this kit rearranged to create shop buildings for my S-scale New York, Westchester & Boston. Compare this structure to the bona fide S-scale Lehigh Valley Models diesel house to the right rear.

Figure 2 shows two HO **Design Preservation** kits across the street from another bona fide S-scale structure, a row house from **Lehigh Valley Kits**. Most of the two-story DPM kits are acceptable in S. Incidentally, the interior of the hotel coffee shop is a flat picture mounted about an inch inside the windows, copied from a photo in a Starbucks annual report.

My Troy, New York, terminal area is shown in **Figure 3**. In the foreground is the commissary, kitbashed from pieces of the HO-scale Heljan brewery kit. Behind the commissary, on the upper level, is a terminal building bashed from two **Walthers** HO-scale Bailey Savings & Loan kits. In order to convert the doorways from HO to S, I merely installed the HO doors upside down! (A complete article on this kitbash appeared in the October 2000 issue of *Railroad Model Craftsman*). The fencing surrounding the station level is also from a **Heljan** HO kit.

Don't overlook those cute ceramic buildings you find in gift shops. Many of them are perfect for S background buildings, but avoid the ones with patches of snow on their roofs. The lobster pier in **Figure 4** is one of these buildings. I embedded the foundation into the scenery and added a scratch-built pier. I also blackened the yellow-painted windowpanes, but that's all.

Speaking of gift shops, the next time you visit a railroad museum, check out what they have for sale. Many of them have books of cardstock cutouts that assemble into HO buildings. If you have access to a personal computer with a scanner, you can blow up the pages by a factor of 1.36 and have instant S structure kits. I scanned and copied a house from one of these books, Cut & Assemble Victorian Houses, by Edmund V. Gillon Jr. (Dover Publications), and printed it on fifty-pound card stock. **Figure 5** shows the result, a nice background building overlooking Burnham Junction on my NYW&B.

Next month I'll conclude this series on "other-scale" resources.

—

Feel free to e-mail any comments or questions about S scale in general to scurves@modelrailroadnews.com or snail-mail them to S-Curves, Model Railroad News, P.O. Box 1080, Merlin, OR 97532-1080. Suggestions, contributions, and announcements are all welcome.

Figure 1: The structures in the left center of this photo are built from parts in the Korber HO power plant kit. The structures to the right rear are resectioned from a Lehigh Valley Models S-scale diesel house kit. The Alco PA is an American Models ready-to-run product.

Figure 2: Two HO Design Preservation Models kits look right at home across the street from two Lehigh Valley Models S-scale row house kits. The hotel signs were Photoshopped from a book of 1941 Chicago photos.

Figure 3: Two Walthers HO "Bailey Savings & Loan" kits were combined to make this city terminal building. The signage atop the side walls is from Blair Line.

Figure 4: This lobster shack is one of hundreds of ceramic structures discovered in a local garden nursery. It helps to carry a small scale rule like the "Scale Card" in your wallet while shopping with your spouse.

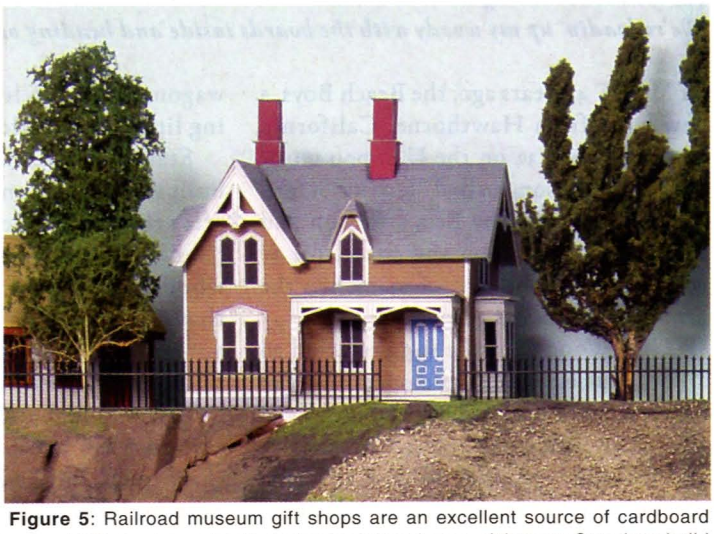

Figure 5: Railroad museum gift shops are an excellent source of cardboard cut-out HO structures. I enlarged some pages in one of these to S scale to build this background farmhouse.

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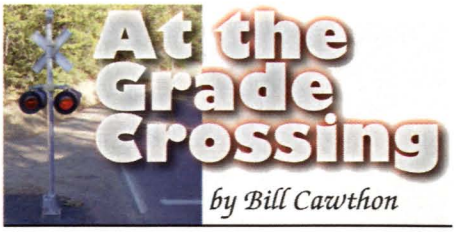
"Early in the morning we'll be startin' out, some honeys will be comin' along,
*We're loadin' up my woody with the boards inside and heading out singing our song" **



by Bill Cawthon

ALMOST 47 years ago, the Beach Boys, a new band from Hawthorne, California, made it to No. 32 on the U.S. pop music charts with a song called "Surfin' Safari." The song, written by Brian Wilson and Mike Love, stayed on the charts for 37 weeks and was the first of many hits the group would record.

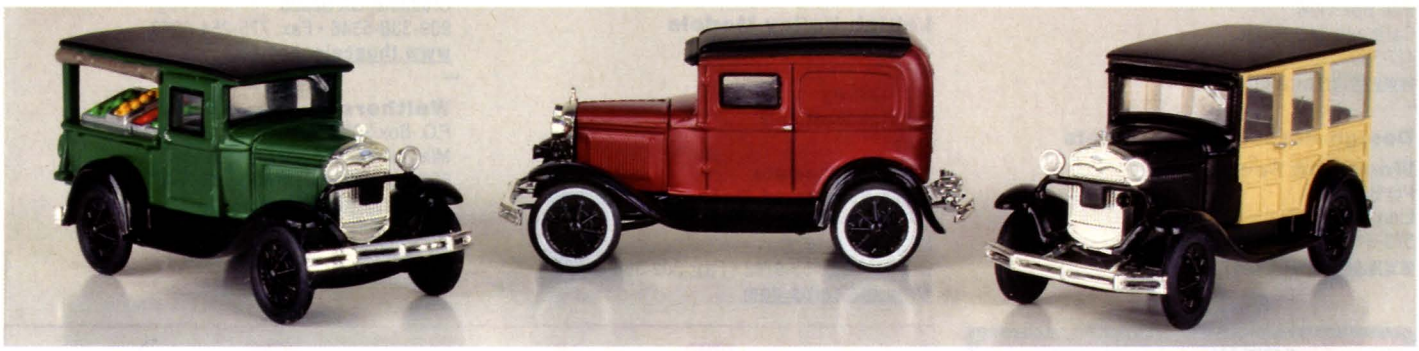
The "Woody" in the song referred to a Ford station wagon and sparked a fad for classic pre-WWII Ford wagons. Even though my high school was in Connecticut and about as far away from the California surfing scene as one could get, one of my fellow students restored a Model A Woody and drove it every day.

Like its predecessor, the Model T, the Ford Model A sported every kind of body imaginable, befitting its role as a family car, light truck, commercial hauler, and farm implement. Following the release of their popular sedan, sport coupe, and pickup, **Athearn** has created a second set of vehicles, including a "Woody" station wagon, a panel delivery and an interesting little truck called the "Huckster."

Station wagons didn't have factory-built steel bodies until a little over a year after the end of World War II. Prior to that, station wagons generally had wooden bodies for the simple reason that station wagons weren't part of the automakers' regular production. The bodies were farmed out to various specialty body makers. Back in those days, station wagons were pretty much what their name implied: vehicles for transporting folks and their luggage to and from train stations. It wasn't really until the 1950s that the station wagon became the family hauler we now associate with the term and even then, upscale models like the Ford Country Squire kept their "wood" trim.

The panel delivery was a standard production item until the late 1950s when it began to be replaced by the van. Panel deliveries were commercial vehicles used by everyone from grocers to tradesmen — anyone who needed an enclosed cargo area. This wide variety of applications makes the Athearn model suitable for a number of roles on your layout.

The Huckster is my favorite of the bunch. Hucksters were basically panel deliveries without the panels. They had roll-up canvas curtains on the sides to allow the display of goods and were designed to be a mobile store for farmers, greengrocers, and others. Like the panel delivery, they were used for a variety of purposes and the body style persisted until the early 1950s. The Athearn model comes complete with vegetables in the cargo area and you could create a fine little roadside scene with a farmer peddling his crops from the back of his truck.



Athearn has added to their selection of 1931 Model A Fords. Like the real thing, the models are offered in a variety of body styles. L-R: Model A Huckster, Panel Delivery and the classic Woody. They're all available now from your favorite hobby supplier.

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The Huckster is nicely detailed with its crates of produce ready for a customer to squeeze, prod, and poke. Notice the rolled-up canvas curtains on the sides and rear.

A crude sign, a couple of figures, and maybe an Athearn Model A sedan would complete the tableau. For an in-town scene, greengrocers used to ply their routes, offering fresh produce to housewives. My mother used to buy eggs from a local farmer and his wife when we lived in a Detroit suburb. The couple didn't have a Huckster (I'm not that old!), but they did have a black Ford panel delivery and they got a new one every couple of years, so I guess the egg business was good.

Like their predecessors, the Athearn models are dandy replicas of the classic Model A. The tooling is up to Athearn's usual standards, which is to say it's very good. The paint was good, though it seemed a little thick on the Huckster, but that might just be on the sample I received. In any case, it certainly wasn't like some diecast models where the paint is so thick it obscures the details.

One thing I particularly liked was the flush-fitting side and rear window "glass" on the Woody. It really improves the appearance of the car. If your layout is set in the late Transition Era, the Woody will fit perfectly at one of the drive-ins offered in HO scale.

The only significant problem with the latest releases is still the simulated wire wheels, and the only way I can imagine to "fix" them without replacement is painting the inner portion of the wheel flat black and then dry-brush the "wires" and hub with a gloss paint to create some contrast. Model A wheels were generally body color on trucks but those on cars were often a different color, with red and light yellow being popular. Be sure to add the bright hubcap. That should help break up the solid plastic black. There are plenty of photos on the Internet that can be used as references.

The prime era for the Athearn Model A would be from late 1930 to the end of World War II. The commercial vehicles, like the panel delivery and Huckster, would have been worn-out, having had to work long past their expected service life during the war years. However, the Model A would be reasonable anytime during the last 78 years. They're still collectible and still being restored and driven today. You could even add a surfboard....

See you next month at the grade crossing!

* "Surfin' Safari" (Brian Wilson & Mike Love, Guild Music Company BMI) is copyright © 1962 by Brian Wilson. Renewed 1990 by Brian Wilson.

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I do enjoy hearing from you and comments and corrections are always welcome. You can send an e-mail to: Gradecrossing@modelrailroadnews.com or snail-mail an actual letter to Grade Crossing, Model Railroad News, P.O. Box 1080, Merlin, OR 97532-1080.

Mentioned in this column:

Ford Model A Sedan Delivery, various colors, MSRP: $11.99

Ford Model A Woody, various colors, MSRP: $12.99

Ford Model A Huckster, various colors, MSRP: $11.99

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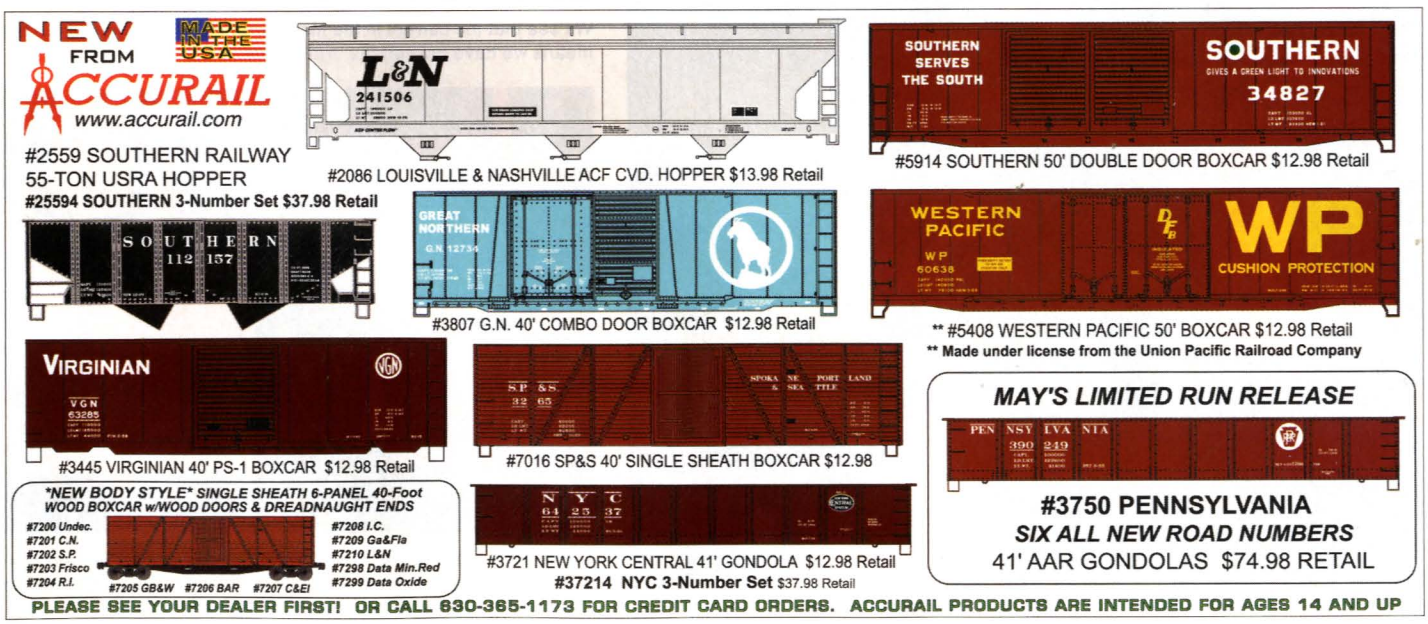
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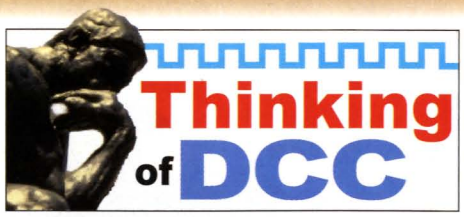
DCC Short Circuit Detection, Part-2

By Dick Bronson



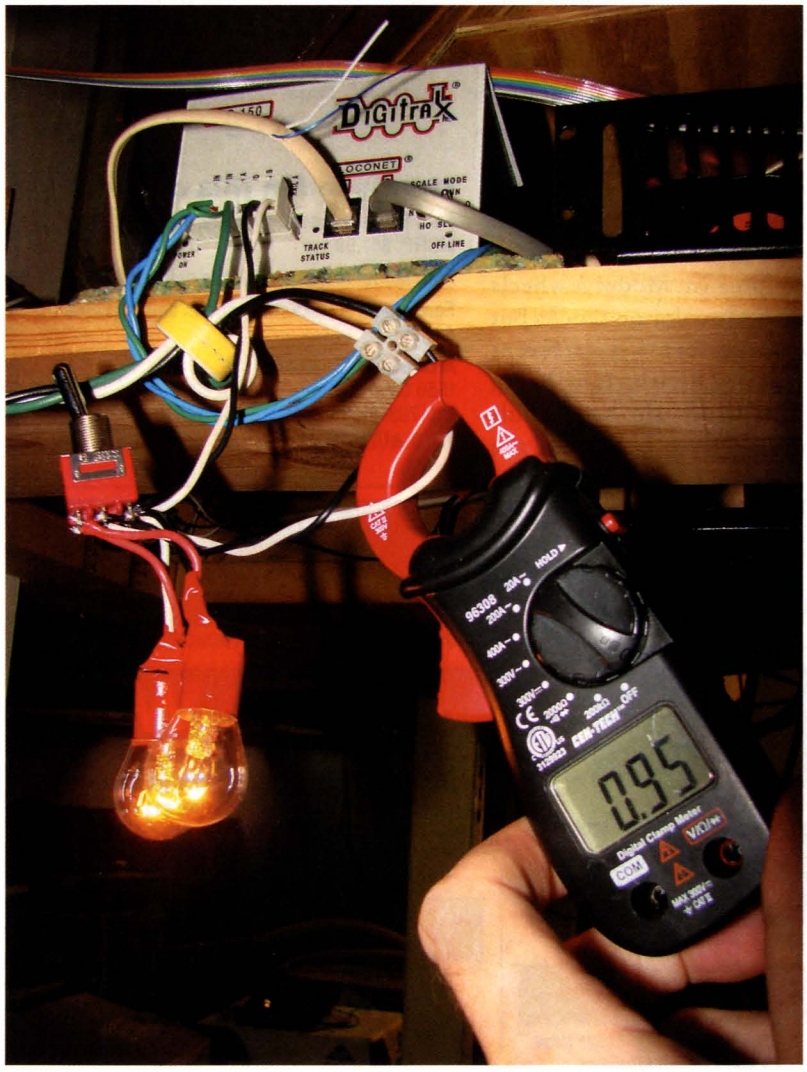
This is Dick's second and final installment on chasing down shorts. Using an inexpensive clamp-on ammeter and an easy-to-build safe power supply, Dick hunts down shorts with ruthless alacrity. –John

LAST MONTH we wired up a simple circuit that will limit the short circuit current in a DCC power district to a safe value, but leave it flowing with the intent of tracking down the elusive short circuits that seem to plague even the most carefully wired layout.

Now for the real test, will the inexpensive clamp-on meter read DCC? It does! I immediately get a reading of 0.95A when clipping over either bus connection at the booster. Now we are hot on the trail with an electronic bloodhound at our service. Sure enough, a quick check at the terminal strip where we had made our final disconnection during the club meeting shows that the current is flowing in the direction of the feeder we disconnected. Clamping on the DCC bus line past that point shows zero current flowing in that direction. The absolute elegance of this method is that it does not require any wires to be cut or disconnected at all, and each test only takes a few seconds to complete.

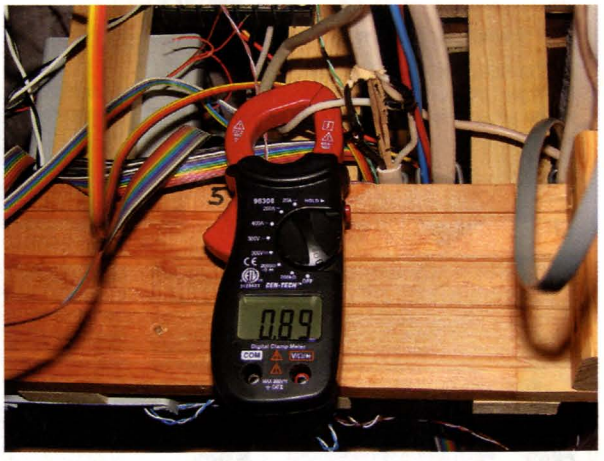
As I approach the trouble area I find that the current is no longer full strength in one wire and zero in the other at each junction point. This is because my track has feeders at each rail section, and once I am testing in the same block as the short circuit, current flows to the short through multiple rail feeders. Nickel silver rail has a high resistance compared to copper wire, so by following the higher current path at each junction I am able to track down the short, not only to the block, but to the precise feeder nearest to the short circuit. It turns out to be a shorted rail gap, which is easy to spot once I know within a few feet of where to look.

The next test of this system came when we tackled an on-again-off-again short that had plagued operations on Jack Parker's P&W railroad, especially during open houses. (Sound familiar? www.pandw.org/). There is one track that is only used as a return loop during open houses that has caused short circuit problems for several years. We had actually gone to the extreme measures of cutting off each visible feeder in the entire area and rewiring them to new terminal blocks so they could be disconnected easily for testing. During



Current limited by lamps being measured at booster.

We see that the current in the main bus is zero past this point. This means we have passed the branch circuit with the short.



At this point we discover that the short circuit current is flowing in the branch feeder. Even in cramped spaces it is easy to follow the short circuit current without disconnecting any wiring.

this rewiring a closed gap was discovered and assumed to be the trouble, but even with a new gap cut, there was still power reaching the track section when all of the feeders were disconnected.

Out came the clamp-on meter and we started to follow the current. Much to our surprise, the current did not follow along the paired wires of the power bus. At the first split after the booster itself, power from rail 'A' went to the left and power from rail 'B' went to the right! Following the left hand circuit lead us to the expected track connections on our new terminal strip. However, there was no current at all in any of the return wires from the terminal strip. Next we followed the current to the right, testing at each branch wire connection to see if it had the current or if the current continued along the main DCC bus. Note: the clamp-on meter measures the actual current flowing in the wires, not voltage drop, so it does not matter if the wire is #8 (like the P&W main power bus) or #20 or smaller. It measures exactly the same.

We followed the mystery current path and it looped around to a nearby section of the layout. Finally, a branch feeder was located with the current flowing in it. This wire disappeared behind an under-layout fluorescent light fixture used to illuminate the lower-level town of Misty! Further investigation indicated that at some time in the distant past, in the days of DC and power routing, it was apparently added to the very tip end of an industrial siding rail. This was far from any of the other feeders in that section of the layout, hidden from below by the lamp, and virtually invisible from above. (See the yellow arrow in last month's picture.) The amazing thing is that it took us less time to locate this long-time gremlin with the help of the clamp-on current meter than it has taken me to write about it.

Last month the P&W electrical crew added some new track feeders in the industrial area of Mt. Holly. Like any older layout, the P&W was originally wired for DC, and many tracks are power routed. Now, with DCC, it is desired to switch industries even when the main line is occupied by a different train. This means adding new feeders and gaps in the industrial areas. After completing this re-wiring in Mt. Holly, a short circuit appeared on one track whenever a turnout on a seemingly unrelated siding from the main line was thrown. The two tracks do cross with a diamond but come from completely different places. The usual electrical checks with a test lamp left some confusion but no solution. The clamp-on current meter test revealed that the short circuit current was indeed flowing through the main line turnout's frog feeder when the turnout was aligned for the main, and was OK when aligned for the siding. A bit of additional detective work revealed that the turnout is a power routing design, and no new gap was cut at the siding end of the frog. The diamond crossing was a commercial one that had hidden jumpers and insulated frogs. The electrical crew apparently forgot that the visible 'gaps' in the crossing were bridged internally in the plastic ties, and electrically it was the same as a piece of straight track.

The clamp-on ammeter that I purchased also includes volt and ohm functions, but the ranges are very limited and of little use for testing DCC. I doubt that the actual amp reading is accurate due to the differences between the normal AC waveform and that of DCC. However, for our trouble-shooting purposes, precise values are unimportant. We just need to see which way that ornery short circuit current goes at each junction between wires. It is much easier to track down elusive short circuits now that we can 'see' the current flowing in a wire using the magic of a clamp-on ammeter. Be sure to get a meter that has a 0.01A or less minimum current reading so that you can read small variations in current as you track down your gremlins.

Items required for this project:

Digital Clamp Meter. Harbor Freight Item 96308 or similar.

DPDT (Double Pole Double Throw) switch with a current rating sufficient to carry your booster's current.

2 each No. 1156 or No. 1157 automotive tail lamps. Solder one lead to the brass lamp housing and the other to the tip. Be careful to not stress the tip connection. I suggest that you use fine stranded #18 wire for minimum strain and best results.

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If you have questions, answers, suggestions, tips, or comments about DCC and the topic in this column, email me at: dcc@modelrailroadnews.com or send a letter to: DCC, c/o Model Railroad News, PO Box 1080, Merlin, OR 97532-1080

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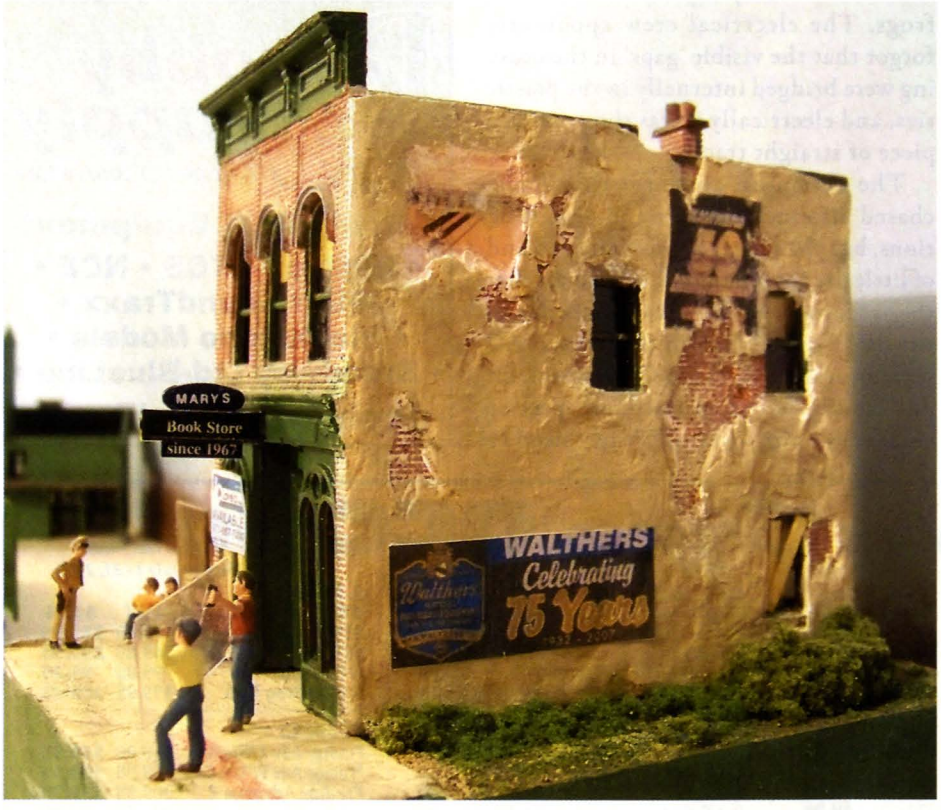
Teens and Model Railroading

THIS BEING MY FIRST ARTICLE for this column, I feel I should introduce myself. My name is Jeffrey Andreski, I'm 17 years old, and I've been interested in trains since receiving my first HO-scale train set for Christmas when I was 3. I've lived in Loveland, Colorado since 1995.

Currently I'm working on an HO-scale 8x9 foot L shaped switching layout (which will probably be part of the subject of articles for future columns). This month I'll go more in depth on the subject of getting started in the hobby and the role that stores and clubs play in drawing in potential model railroaders. Some believe that teens don't care about trains and model railroading, but this is very untrue. However, I must admit that there are a lot more rail fans among us than model railroaders. There are many teens that like trains, and if given the chance would make great model railroaders. Yet, I'm sorry to say, that many don't get that chance to get started or get turned away for a variety of reasons. So I'd like to take a closer look at the reasons why and how to counter them in this month's column.

A Community for Teens

Teens love trains just like adults do. For that reason, there is a group called the TAMR (Teen Association of Model Railroaders). The TAMR was started in 1964 because a group of teens were interested in trains, but a club rejected them because they were considered too young to be members. I won't rehash the whole TAMR history right now, but I wanted to point out what was going on 40 years ago. Today, things are somewhat different. Many model railroad groups and clubs now have junior memberships for younger members that wish to join. For the last 4 years, I've been the only junior member in my local Model Railroad Club. I had known of the club for a while but never took the next step. In 2005, a couple of club members had a few dioramas and a switching puzzle layout on display at the local County Fair. I ran the layout for a while and talked to the members. I took a meeting schedule and showed up at the next meeting. I've been very active in the group ever since. My story turned out very well, but many other teens don't have the same opportunities that I had.



This photo shows what you can do over several evenings, and have something real to show for your effort. I think you will agree that I chose the best way to spend my free time. The building was constructed from a Walthers Don's Shoe Store kit. The building was heavily weathered to show age (You can also tell how old the building is by looking at the anniversary signs on the building). Currently, the building is resting on a mini diorama, while it waits for the town to be built up around it.

The Hobby Shop

One of the first stops for a teen, or anyone looking to get into the hobby, is usually a visit to their local hobby shop. While this is the best place to get information on getting into the hobby, not all hobby shops are alike. By that I mean, there are the shops that have friendly and knowledgeable employees and salesmen, but there are also the ones that only want to sell you the latest and greatest products and don't care what you are looking for or need. You need to be careful not to be taken in by the latter. For example, a teen goes into a hobby shop and starts browsing through the train selection. A sales person comes over and asks if he needs any assistance. The teen explains that he's new to the hobby and would be interested in starting a small layout. The sales associate then shows him all that he will need to start a layout track: locomotives, rolling stock, scenery materials, or maybe even a layout kit. But, what can really scare people (teens and adults alike) away from the hobby is when the sales associate shows you the selection of DCC systems. I know that DCC is now the hobby standard, but it's not meant for people just starting out, with one exemption being Bachmann's EZ Command DCC System. Wouldn't you feel somewhat intimidated if a salesman said you need a $200 to $400 DCC system and a couple DCC-equipped locomotives to get started right? I know I would.

Hobby shops are usually the first stops for people getting into the hobby, so they are the ones on the front line of getting

I prefer to spend a couple hours of free time working on a project instead of playing video games, since it's much more rewarding. Here is a Walthers HO-scale GP9 sitting on the workbench after getting its final coat of weathering.

new people into the hobby. They, in a way, have the duty to get them started out right, often recommending starting with an average train set, along with an upgraded power pack, and maybe purchasing some extra track. Those would be good recommendations for the average person/teen starting out in the hobby, along with giving them some information about local clubs and groups, which could help them out even more. I know there are many great hobby shops that do as I just described, but I just wanted to restate this; other teens, adults, and I have had experiences with hobby shop salespersons that just want you to spend money in the store for the items they want you to buy. They do not seem to care about what would be the best way for you to start in the hobby.

The Competition

A lot of people say that model railroading is an expensive hobby. In most cases it is, but it doesn't have to be. For teens, this is especially important because we are working with a very limited budget. Model railroaders are notorious for being able to turn everyday items into something usable in the hobby. This is even more true with teens because of our financial situation. But if you compare model railroading with other hobbies, it isn't much more expensive comparatively. Like most hands on hobbies, model railroading has been facing stiff competition from the increase of computer and video game usage by the younger generation. Not that the technology advances aren't a good thing. Look at what DCC has done for our hobby. The thing that baffles me the most is when teens tell me that model railroading is too expensive, yet they can spend $200 to $400 dollars on a video game system and an average of $50 a game, that might give you 4-6 hours of playing time each. Then what do you have to show for your time that you spent looking at the TV? A high score or a pretty congratulations screen? I admit that I do like playing video games, but I do not own a game system. All I use is the family desktop PC. I believe I've spent $30 dollars over the past year on video games and those were a couple EA game packs and EA's Rail Simulator. I play video games very moderately because I prefer to actually do something with my time and my hands, such as detail a locomotive or work on my layout instead of trying to beat a high score. I (and anyone) could do a lot with $500 towards building a layout.

Space Limitations

I have to say that the biggest challenge for teens is space limitations. By that I mean, most teens only have, at most, their bedroom for a space. So, there aren't that many options for them, unless you have a small switching layout or maybe 4x8 foot layout. I have overcome that obstacle but that story will have to wait for another time. Parents of teens are a lot more likely to say that you can have a video game system instead of using up half of your room for a model railroad layout.

Railfanning vs. Modeling

For the teens that can't or prefer not to have a layout, there is an activity called railfanning. While it is the easiest form of enjoying trains, this has become a problem here at the TAMR. Almost all the content we were receiving for our monthly newsletter *The Hotbox* involved railfanning, not model railroading. It's easier to take photos of a prototype train in its natural setting than of a model. We do cater to both groups of individuals, but model railroading is the priority. Anyone can go out and take pictures of a train, but not everyone can be a model railroader.

A Rewarding Experience

For those brave and persistent souls that make a start in model railroading, they find a rewarding hobby in which you can really make what you want of it. Expensive or cheap, time-consuming or simple, model railroading can be adapted to many different people, from retirees to teenagers.

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If you have any questions, comments, tips, or suggestions concerning this column or model railroading in general, send them to: The Future of Model Railroading, c/o Model Railroad News, P.O. Box 1080, Merlin, OR 97532-1080 or e-mail to: tamr@modelrailroadnews.com.

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Managing Multiple Locomotive Fleets

N DEPTH

By Steven Goehring

HELLO EVERYONE, and welcome to this month's N Depth column. Phil Scandura recently scaled back his writing in *MRN*, so now you will find me writing here every other month. And if you don't mind a shameless plug here and there, be watching for the TAMR column where I used to hang out. There are several great new writers starting out there. OK, that's the last unsolicited advertisement for this month!

As I've adapted to my relatively new job reviewing products for *MRN*, I've also adapted how I collect, organize, and run locomotives. I built on ideas gained from my split-era home model railroad to guide my purchases, plans, and decisions of what to equip with digital control or digital sound. Managing a fleet is a general, applies-to-all-scales topic, but my specific instance contains a few points specifically important in N scale. With the relatively new spread of Digital Command Control and especially DCC sound in N scale, this topic applies more to N than to other scale. Also, with widespread sound inflating prices in HO scale, N scale has assumed the definitive title of the least expensive model railroading scale. As such, N-scale modelers can amass larger collections of locomotives and cars, and occasionally even multiples of the exact same item. This value, combined with a focused way of managing one's locomotive and car fleets, opens more doors to N scalers than to most others.

Eras of the Wellsville, Addison & Galeton

Let me start off by explaining the lesson that taught me to subdivide train collections into fleets. My first experience with dividing a model railroad fleet came from indecisiveness when planning a larger model railroad. When I started, I knew I was building it to represent a simplified Wellsville, Addison & Galeton Railroad, but I had not decided on a specific time frame. I knew that I had from 1956 to 1979 to work with, but "The WAG" was an ever-changing railroad. In 1956, it started out on New Year's Day as a B&O orphan desperate to dieselize, but running its classic 2-8-0 steamers as needed. From then until 1969, the WAG was settled in with its very rare heavy centercab diesels. From 1969 until the end of operations in 1979, the railroad was host to a snappy team of F7s. With each era came a new look, and a different balance of freight. If I wanted to model all of these, I needed a way to change the trains out entirely. And that meant at least three separate fleets of locomotives and freight cars to acquire.

I started on a 1956 fleet; building a few of the oddball switchers that the WAG employed and a B&O steam locomotive. I found it easy to build up an appropriate collection of freight cars for a 1956 era, including two clean and unweathered **Athearn** 36-foot wood boxcars factory lettered for the WAG.

But when Athearn released the true-blue (ahem, cream & orange) WAG boxcars, I couldn't stop at just two roadnumbers. I shied away from renumbering them, but still bought a duplicate. When the time came to assemble a 1969-era freight fleet, I weathered it to reflect 13 years of use since its last paint job. Now the car fits in perfectly in its separate time frame. This is one of the key advantages to strategically dividing your collection into different historical eras: When a rare model that fits your railroad perfectly hits the market, go ahead and buy several of them, even if the car/locomotive number is exactly the same. Give them a dirty appearance or other aging effect, and they'll fit perfectly in a later historical period.

Dividing by history also allowed me to get my railroad operating in a convincing manner without having to own every locomotive. By starting with the steamer and switchers in 1956, I was ready to run the railroad with only 3 engines. That put me reasonably close to the look of the real railroad in 1956, while modeling other eras would take years of purchases, scratchbuilding, and custom painting.

PRR vs. B&O: Dividing by Control System

Away from the open space of my parents' basement, I had the constraint of only a small railroad to run on, but also the opportunity to plan for the future. Since I had no major modeling projects, I worked on putting together a sensible and ordered approach to locomotive rosters that would fit with the variety of locomotives that I'll be reviewing.

As I converted my everyday train operations to DCC, I saw right away that the best way to distribute digital decoders between locomotives was to equip one railroad's engines first. I'm a cheapskate, so I'm not about to go out and buy decoders for everything I own. Thus, I started adding decoders to my Baltimore & Ohio locomotives. I had to remember that on the WAG, my existing locomotives could not accept digital decoders. They would remain as a fleet of conventional DC-powered engines, while I would concentrate on putting DCC decoders in the engines meant to run on the B&O itself.

When I got to review new Pennsylvania Railroad diesels with **MRC** sound decoders, I found a new dimension of railroading and adapted my fleet planning to include it. I had two sound-equipped PRR diesels already on hand, and according to MRC's product announcements, decoders were in development for the GG1, NW2, FP7, and other PRR diesels I owned. While several of my B&O locomotives could accept decoders with sound, the more sound-friendly fleet belonged to the Pennsy. I decided to

Some members of my Pennsylvania Railroad fleet and Baltimore & Ohio fleet split by a re-lettered MoPac GP15-1 from my anything-goes fleet. The B&O locomotives all have standard DCC decoders installed, while the PRR units are either awaiting a sound decoder or are already equipped with one. The GP15-1 has stickers created with a label maker to indicate its fictional college owners. With the stickers applied such that the locomotive can revert to its original paint scheme, this provides the ultimate way to make sense of an otherwise random group of locomotives.

build on that and make the PRR my sound-equipped fleet.

Now divided between WAG (DC control), B&O (DCC non-sound), and the PRR (DCC sound), I found it easier to make decisions on what to buy. I still considered non-DCC models for the WAG, accepting that I may reach a point at which I might want to upgrade them, but still deciding to focus on getting the other fleets DCC-equipped for now. And I will only plan to go out and buy a new PRR diesel if I can find an accurate sound decoder for it.

Variety Fleets and Modeling Modernism

The nature of being a product reviewer is that you write about what you get. While I have the advantage of being *MRN's* only N-scale writer on the East Coast, I still receive items that decidedly don't fit in with anything I ever intend to run. Also, I must keep up with modern models, although I don't choose to represent modern railroading in my layouts. I set aside fleets and rules of fleet building to address both of these items.

The first fleet idea came by chance, when I received an **Atlas** GP15-1 decorated for the Missouri Pacific. The only markings on the otherwise plain blue engine were an eagle logo and roadnumber. What else has an eagle as a mascot and blue as a main color? Juniata College, of course! So I ended up using a label maker to stick a few signs on the engine, producing the loco you see in this month's picture. And I'm ready to do that again, too. Next time I get a locomotive I really want to run, but in an oddball scheme, Juniata is going to add more to its fictional switching railroad roster. As an educational institution, why cover over a historic paint scheme when you can slap a few "magnetic" signs on the sides to proclaim ownership? Right? Well, perhaps I am crazy, but having an explained "variety fleet" can be useful for those things we love to buy, but hate to justify.

Finally, I've accepted that models of modern railroad equipment will be part of my reviewing work, so I've decided to make room for a Norfolk Southern/Conrail fleet in my collection. That's what I see roll through town when I'm shopping or out for a walk, so I'll certainly run some black and blue if I have it. Plus, it makes sense to do so for the sake of visiting friends' modern layouts.

I haven't sorted out whether my modern fleet will be DCC or DCC-sound yet, but then again, I never really etched that decision in stone for any locomotive fleet. While guidelines are helpful and even fun to plan, they are always adaptable to changing times and product availability. So take some of these ideas if you think they're useful, but remember whose railroad you're planning for. That's right, it's YOU who gets to call the shots on your railroad, so have fun doing so!

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Feel free to E-mail any comments or questions about N scale in general to: ndepth@modelrailroadnews.com. Or write to: N-Depth, c/o Model Railroad News, P.O. Box 1080, Merlin, OR 97532-1080. Suggestions, contributions, and announcements are all welcome.

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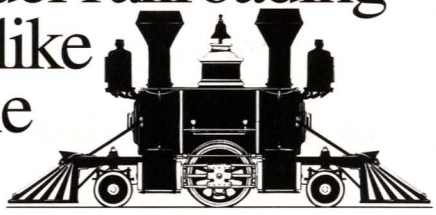

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LIONEL O Ga 4 semi-scale diecast freight cars, mint cond., original boxes/foam + packaging: $1240. Free shipping railroadman0009@hotmail.com; (301) 461-1294, 1-5 pm EDT.

4 SALE: Bdwy Ltd CA Zephyrs 502 512 514 $50. NJCB PRR BM70 ptd $80. RWKS PRR R60 Exp Reefer $160. UP Lambert REA Reefer UP $70+PRR RPO ptd $110. Athearn RTR new frt cars $8 each. Bob Clifford (215) 639-7190.

FOR SALE: HO/OO British — HO European LSSAE for each list. Also have diecast of various scales. Branch Lines Ltd., 1200 N Branch Rd, Wilmette, IL 60091-1035; (847) 256-4294.

CUSTOM BOAT/SHIP MODELS! All scales/types. Free catalog. S. White, 4223 Chestnut Dr., Center Valley, PA 18034.

VARNEY PARTS CATALOG, $15 PP Original, Reproduction Parts: Locomotives, Tenders, Freight Cars. Restoration Train Parts, 135 Richwood Drive, Gloversville, NY 12078; (518) 725-4446.

O-GAUGE 3-rail locomotives, rolling stock, track, accessories for sale. Send #10 SASE for pictures and prices to: Bill Pyper, P.O. Box 885, Salem, OR 97308; or e-mail: rrbill10@comcast.net for pdf.

A FATHER & SON TEAM – Looking for large High-Quality Brass & Plastic Collections. We buy your Entire Collection, not just the cream. Over $500,000 Available. Please call Dan Toll Free at 1-877-227-5557 or mail a list to: Dan Glasure, PO Box 830175, Ocala, FL 34483-0175 or E-Mail: dan@DansTrainDepot.com

TRAINS new and used. Parts and repairs. Model railroad magazines all gauges. Also videos & DVDs. (206) 330-3628 ask for Brad.

WANTED: ORIGINAL HOWARD FOGG train paintings. John Atherton (845) 471- 8152; E-mail: JJAAMAPOU@aol.com

HO 4 SALE: Locos, freight cars, decals, DVDs, books, & magazines. F. Cesefske, 4049 Pine Grove Ave., Ft Gratiot, MI 48059.

NEEDED! Kid working on N Scale layout. No money! Will take anything EZ/Bachmann. BerryJacob82@yahoo.com

UNIQUE HO layout on a bar stool! Needs finishing. Reasonable offers. Buyer collects. (702) 871-0620, 4-7 pm.

HO FOR SALE: Challenger SP AC12 AC7 W+R NP S4 W3 AIHWT pass cars GN HWT pass cars. Shawn, (541) 862-2039.

HO FIGURES: 100 for $20 / 50 for $11. Painted, hundreds available. $4 S&H. E-mail: texas-pacific@sbcglboal.net

For Sale: 2 HO Proto 2000 NYC engines (F3A-F3B) w/ DCC & sound priced to sell; (414) 321-0529 or (414) 510-2727.

WANT HO Ma & Pa Tender. Trade Tyco 4-6-0 O/T tender. J.E. Murphy, PO Box 9706, Baldwin, MD 21013-0706.

FOR SALE: Century of Lionel complete set of 5 TT diecast replicas, yr. 2000 only. Mint! Call Hal (954) 749-1090.*

BEAUTIFUL ORIGINAL RAILROAD ART! Nationally known artists. Call Vern, (717) 464-3481; see at www.vsrailart.com

CNJ LINES COLLECTION: 437 car kits NIB 45 brass & plastic loco, MTH O. For lists E-mail: railfun@verizon.net

HO BRASS FOR SALE: PFM GN Challenger, W&R NP, SP AC7, AC12, Oriental GN pass cars. Shawn Stevens, (541) 862-2039.

DISTRESS SALE: On30 Bachmann Climax loco mint/boxed. Pocahontas Lumber. E-mail offers to: laurascot2@cox.net

FOR SALE: S-Scale layout. No A.F. Call (740) 685-5614; Tom Campbell, 10155 Cumberland Rd., Pleasant City, OH 43772.

IHC pass cars: Leigh Valley, NYC in 2 tone gray+ NYC corrugated, CBQ cars+8 car set rare & discont. Call (414) 321-0529.

HO AUTOS $3.00 and $4.00. SASE for list: E. Husarik, 12710 54th Ave., W. Mukilteo, WA 98275; (425) 493-2588.

WANTED: Athearn RTR Ford C w/ 28' trailer undec. Stock #: ATH91023. Only need trailer. Ernie, (503) 622-3573.

FREE* CLASSIFIED ADS!

NOTE:** Free Classified Ads are for NON-COMMERCIAL ADS ONLY, First Four Lines Only, Additional Lines are $1.50 Per Line, One Free Ad Per Issue, No Mail Order Ads. **Commercial Ads are $1.50 Per Line with a Four Line Minimum (Minimum $6.00)

Classified Ad Order Form

Name _____ Address _____

City _____ State _____ Zip _____ – _____

Daytime Phone _____ Fax _____

All ads must be prepaid. Use the boxes below to write your ad, placing one character (including spaces) in each box. Approximately 27 characters will fit on a line. The first two or three words will be typeset in ***BOLD CAPS*** at no additional charge if desired. ***Please include contact information in your ad copy below (phone number, address, Email address, etc.)***

☐ ***Check here for BOLD CAPS.*** Publisher reserves the right to edit and/or abbreviate copy to fit available space.

1 2 3 4 1 2 3 4

EXTRA LINES @ $1.50/LINE

Sample Ad: AMERICAN FLYER LOCO, Classic 1950s era 4-6-0. Excellent condition. $125 obo. 503-555-1212 after 5pm Pacific.

NOTE: If you need a larger ad, please TYPE the copy for the ad and estimate the number of lines you will use. To calculate the number of lines, simply count the total number of characters+numbers+spaces and divide by 27.

Number of lines _____ x $1.50 = $ _____

Please Make Your Check Payable To: Model Railroad News — or Use Your Credit Card...

Send To: Model Railroad News
P.O.Box 1080
Merlin, OR 97532-1080

☐ AMERICAN EXPRESS ☐ MasterCard ☐ DISCOVER ☐ VISA

Name (as it appears on card): _____ Phone: (____) _____

Credit Card Number: _____ – _____ – _____ – _____ Exp Date: _____

Signature (required) : _____

Events for the September 2009 issue must be received by July 17th, 2009

Attn. Clubs & Show Sponsors — Place your FREE event announcement in front of thousands of readers! Let them know about your special event! Send your announcement to us at least three months prior to the event for maximum coverage. Write to: Events, c/o Model Railroad News, P.O. Box 1080, Merlin, OR 97532-1080. You can fax us your event at: (541) 955-0346; or e-mail: events@modelrailroadnews.com

Free trial subscription cards of Model Railroad News are available upon request for show and meet attendees. Call, fax, or e-mail for details.

Events & Activities can be viewed online at www.ModelRailroadNews.com

Arizona, Phoenix — "In The Heat" Railroad Swap Meet will be held on July 25th, at the North Phoenix Baptist Church Fellowship Center, 5757 N. Central Avenue. Hours will be from 9:00 a.m. to 1:00 p.m. Admission: $5.00. Attractions will include everything trains: all gauges, books, tapes, train memorabilia, and accessories. Site has ample parking, is handicap accessible, and refreshments will be available. For more information, contact: David Jerry, (602) 336-0973.

California, Riverside — The Roundhouse Gang Model RR Club will be holding a Swap Meet on July 25th, at the Janet Groeske Senior Center, 5257 Sierra Street (1 block north of Sears.) Hours will be from 7:30 a.m. to 12:00 noon. Admission: $3.00; spouse and under 18 admitted free. For more information, contact: Gary, (909) 794-3153; e-mail: gwintergerst@verizon.net

California, San Diego (Balboa Park) — The San Diego Model Railroad Museum will be hosting Circus Family Day on August 16th. Families can enjoy model circus trains, making an over the top circus necklace, face painting, and all sorts of carnival games. Museum hours are from 11:00 a.m. to 4:00 p.m. Tuesday thru Friday; and from 11:00 a.m. to 5:00 p.m. Saturday and Sunday. Admission: $6.00, adults; $5.00, seniors; $3.00, students with I.D.; $2.50, active military, and children under 15 admitted free. For more information, contact: the San Diego Model Railroad Museum, 1649 El Prado, San Diego, CA 92101; call (619) 696-0199; e-mail: Aparra@sdmrm.org; or visit www.sdmrm.org

Colorado, Lakewood — The Foothills Society of Model Railroaders' Model Railroad and Toy Train Swap Meet will be held on July 18th, at Christ on the Mountain Church, 13922 W. Utah Avenue. Meet hours will be from 9:00 a.m. to 12:00 noon. Admission: $3.00, adults; $1.50, over 64 or under 12. For more information, call George, (303) 989-0087; or Eric, (303) 985-1491.

Florida, Pinellas Park — Regal Railways will be having a Train Show on August 29th, at the Knights of Columbus Hall, 7177 58th Street North. Hours will be from 10:00 a.m. to 3:00 p.m. Attractions to include a small layout. Admission: $4.00, adults; children under 13 admitted free. For more information, call: Joe, (727) 244-1341; or visit: www.regalrailways.com

Florida, Plant City — The Western Division of The Sunshine Region of the National Model Railroad Association will be holding their Summer Meeting on August 8th, at the John Trinkle Building, located on the Plant City Campus of Hillsborough Community College, 1206 N. Park Road. Clinics will be held from 9:00 a.m. to 3:00 p.m. Attractions to include the H.B. Plant Railroad Historical Society's layouts in HO, N, O-27, and G Scale. Admission: $10.00; a light lunch will be included. For more information, contact: Gilbert Thomas, Jr., 4840 Williamstown Blvd., Lakeland, FL 33810; (863) 412-3090.

Florida, The Villages — The Villages Railroad Historical Society Model Train Show & Sale will be held August 22-23, at the Colony Cottage Recreation Center, located at the corner of Morse Boulevard and CR 466A. Hours will be from 10:00 a.m. to 4:00 p.m. on Saturday, and from 10:00 a.m. to 3:00 p.m. on Sunday. Attractions to include model train and railroadiana vendors, an operating layout, and a display. Admission: $5.00, adults; children under 12 admitted free with an adult. For more information, contact: Alan Goldberg, (352) 205-4322; e-mail: amgold15@hotmail.com

Illinois, Sandwich — The Timber Creek Train Show will be held on July 19th, at the Best Western Timber Creek Inn and Suites and Convention Center, 3300 Drew Avenue. Hours will be from 10:00 a.m. to 3:00 p.m. Attractions to include vendors, layouts, carnival rides, concessions, and an on-site bar & grill. Admission: $6.00, adults; children under 12 admitted free. Mention this ad for $1.00 off admission. Special Train Show sleeping room rates available. For more information, contact: Judy Perkins, (630) 273-6000; e-mail: judy@timbercreekinnandsuites.com; www.timbercreekinnandsuites.com

Kansas, Lenexa — The Turkey Creek Division of the NMRA's Train Show will be held on August 1st, at the Lenexa Community Center, 13420 Oak Street. Hours will be from 9:30 a.m. to 3:30 p.m. Attractions to include over 80 vendors, clinics, displays, and door prizes. Admission: $6.00, adults; children under 12 admitted free. For more information, contact: Louis Seibel, (913) 927-6850; e-mail: L-seibel@comcast.net

Maryland, Timonium — A Greenberg Train & Toy Show will be held August 1-2, at the Maryland State Fairgrounds, 2200 York Road. Show hours will be from 10:00 a.m. to 4:00 p.m. both days. Show will feature a huge marketplace of train, toy, and hobby dealers, operating model railroads, and instructional presentations. Admission: $7.00, adults good for both days; children under 12 admitted free. For more information, contact: Greenberg Shows, P.O. Box 34, Elmhurst, IL 60126; (630) 279-4087; e-mail: Staff@Greenbergshows.com; www.greenbergshows.com

Missouri, Kirkwood — Train-O-Rama will be held on July 18th, at Concordia Lutheran Church, 505 S. Kirkwood Road. Hours will be from 9:00 a.m. to 2:00 p.m. Admission: $5.00, adults; children under 12 admitted free. For more information, contact: Val Dasho, (314) 835-0257.

New Jersey, Edison — A Greenberg Train & Toy Show will be held August 8-9, at the New Jersey Convention & Expo Center, 97 Sunfield Avenue. Show hours will be from 10:00 a.m. to 4:00 p.m. both days. Show will feature a huge marketplace of train, toy, and hobby dealers, operating model railroads, and instructional presentations. Admission: $7.00, adults good for both days; children under 12 admitted free. For more information, contact: Greenberg Shows, P.O. Box 34, Elmhurst, IL 60126; (630) 279-4087; e-mail: Staff@Greenbergshows.com; www.greenbergshows.com

Ohio, Van Wert — The Van Wert County Historical Society will be presenting Railroad Heritage Weekend on July 18-19, at 602 N. Washington Street. Hours will be from 10:00 a.m. to 5:00 p.m. on Saturday, and from 12:00 noon to 5:00 p.m. on Sunday. Attractions to include operating train layouts in O-scale, HO-scale, and N-scale, vendors, refreshments, and Hobo stew on Saturday. Admission and parking are free. Tour for the Historical Museum is free. For more information, call: Jan Dunlap, (419) 238-4207; or e-mail: snapshotjan@embarqmail.com

Oregon, Medford — The Medford Railroad Park will be open to the public on the second and fourth Sundays of each month, April through October. The Railroad Park is located adjacent to Fire Station No. 4 at the intersection of Table Rock Road and Berrydale Avenue. Hours will be from 11:00 a.m. to 3:00 p.m. The Railroad Park is a unique collaboration between Medford's Parks and Recreation Dept., and five volunteer-based railroad-related clubs. Attractions include a visitors center/museum housed within a restored 1910 caboose, a restored 1942 caboose, a restored 1928 flanger, a handcar ride, a motorcar ride, operating layouts, and the Morse Telegraph Club's antique telegraph system. Admission is free; donations are appreciated. For more information, contact: Dick, (541) 779-3002; e-mail: starkers2@msn.com; or Tony, (541) 944-9176; e-mail: spflimsie@aol.com

Pennsylvania, Oaks — A Greenberg Train & Toy Show will be held August 15-16, at the Greater Philadelphia Expo Center, 100 Station Avenue. Show hours will be from 10:00 a.m. to 4:00 p.m. both days. Show will feature a huge marketplace of train, toy, and hobby dealers, operating model railroads, and instructional presentations. Admission: $7.00, adults, good for both days; children under 12 admitted free. For more information, contact: Greenberg Shows, P.O. Box 34, Elmhurst, IL 60126; (630) 279-4087; e-mail: Staff@Greenbergshows.com; www.greenbergshows.com

Pennsylvania, Strasburg — The Railroad Museum of Pennsylvania, 300 Gap Road, will be offering Barons & Builders, a summer day camp for children, July 13 –17th for children ages 9 and 10, and July 27-31 for children 11 and 12. Camp will be in session from 10:00 a.m. to 3:00 p.m. daily. Camp activities will include touring equipment in the Museum, riding an Amtrak train, building LEGO train cars to take home, and creating plans for railroads. Admission: $125.00, for Friends of the Railroad Museum of Pennsylvania Members; $175.00 for non-members. Participation will be limited to 15 campers per session. Deadline for registration is June 8th. For more information, contact: Elizabeth Myers, (717) 687-8628, ext. 3009; e-mail: programs@rrmuseumpa.org; or visit: www.rrmuseumpa.org

Virginia, Chantilly — A Greenberg Train & Toy Show will be held August 22-23, at the Dulles Expo and Convention Center, 4320 Chantilly Shopping Center. Show hours will be from 10:00 a.m. to 4:00 p.m. both days. Show will feature a huge marketplace of train, toy, and hobby dealers, operating model railroads, and instructional presentations. Admission: $7.00, adults, good for both days; children under 12 admitted free. For more information, contact: Greenberg Shows, P.O. Box 34, Elmhurst, IL 60126; (630) 279-4087; e-mail: Staff@Greenbergshows.com; www.greenbergshows.com

Washington, Ilwaco —The Peninsula Model Railroad Club (all scale) will be sponsoring Clamshell Railroad Days, to be held on July 18-19, at the Columbia Pacific Heritage Museum, 115 East Lake Street. Hours will be from 10:00 a.m. to 4:00 p.m. Attractions to include private, club, and museum operating layouts, with all scales represented from Z to G, sales and swaps, raffles, IR&N tours, and slide presentations. There will also be a new book debut: "*The North Beach Peninsula's IR&N*" with signing by the author. Admission: $5.00, adults; children 12 and under admitted free. For more information, contact: Mark Clemmens, P.O. Box 7, Oysterville, WA 98641; (360) 665-4807; e-mail: markclemmens@hotmail.com

Wisconsin, La Crosse — The 4000 Foundation will be hosting the 19th Annual Rail Fair Railroad Show, Sale & Swap Meet on July 18th, at Copeland Park, located at Rose and Clinton Streets. Hours will be from 10:00 a.m. to 5:00 p.m. Attractions to include railroad exhibits, displays, antique trains, and guided tours of a steam locomotive, caboose, and Grand Crossing Tower. Admission: $5.00, adults; children under 12 admitted free. For more information, contact: The 4000 Foundation, P.O. Box 3411, La Crosse, WI 54602-3411; (608) 582-4761 or (608) 784-0036; www.4000foundation.com

The Great Train Expo

CALIFORNIA
September 26 & 27, 2009
Santa Clara County Frgnds, San Jose

FLORIDA
July 18 & 19, 2009
Central Florida Fairgrounds, Orlando
July 25 & 26, 2009
The Harborview Center, Clearwater

INDIANA
September 26 & 27, 2009
Indiana State Fairgrounds, Indianapolis

NORTH CAROLINA
September 12 & 13, 2009
North Carolina State Fair, Raleigh
September 19 & 20, 2009
Metrolina Tradeshow Expo, Charlotte

Saturday & Sunday,10am to 4pm
Adults $7, (good for both days) Kids Under 12 Free
PO Box 725, Oswego, IL 60543
Phone: 630-608-4988
Web: GTExpo.com

GREENBERG'S TRAIN SHOW

MARYLAND - TIMONIUM
STATE FAIRGROUNDS - Aug. 1 & 2
NEW JERSEY - EDISON
NJ EXPO CENTER - August 8 & 9
PENNSYLVANIA - OAKS
GREATER PHILA. EXPO CNTR - Aug. 15 & 16
VIRGINIA - CHANTILLY
DULLES EXPO CENTER - Aug. 22 & 23

Saturday & Sunday: 10:00am to 4:00pm
Admission: Adults - $7.00 (good for both days)
Kids 11 & Under Are FREE
Selling Space Is Available - Call Today
P.O. Box 34, Elmhurst, IL 60126
Ph. 630-279-4087 Fax 240-597-4482
Online: GreenbergShows.com

CHICAGO Great Midwest Train Show
Show Dates Jun 14 • Aug 9 • Sep 13
Oct 11 • Nov 8 • Dec 13
DuPage County Fairgrounds • Wheaton, IL
9:30 am to 3:00 pm
Adults $7 - Kids under 12 are FREE!
PO Box 34 • Elmhurst, IL 60126
Phone: 630-290-1962
GreatMidwestTrainShow.com

MRN: A Year in Review

As a courtesy to our readers, we have compiled an index featuring every product reviewed in the pages of MRN over the past year. We hope you find it useful.

June 2009

Project DCC, Part 10A: Manual Computer Control with Panel Pro & STP
Athearn (N) Overland Passenger Cars & (HO) F45/FP45
Atlas O & NCE (O & DCC) 2-Rail O-Scale Primer
Blair Line (N & HO) Section House Kit
Bridgewerks Mini-Mag 3-S DC Power Controller
Hayes Publishing (Book) *Western Pacific Depots and Stations*
Kato (N) Pennsy NW2 Switchers
Pennsylvania Heritage Models (HO) Track Cover System
Piko (G) Qwik Kit Structure Kits
Rivarossi (HO) 60-Foot Passenger Cars
River Point Station (HO) Ford Expedition

May 2009

Project DCC, Part 9B: Using Your PC to Control Your Layout
Athearn (N) PS-1 Double Door Boxcars & (HO) Spine Car Set
Atlas O (O) Amtrk Dash 8 & Horizon Passenger Cars
Bachmann (Fn3) 2-6-6-2 Steam Locomotive
Banta (O) Inspection Cab kit for Bachmann 4-4-0
Broadway Limited (HO) Paragon2 C60AC Diesel Locomotive
Busch (HO) *Ape* Delivery Truck & *Smart ForTwo* Car
ExactRails (HO) Gondola, Hy-Cube, & Vert-A-Pack, Plus Interview
Kato (N) EMD E8/E9 Diesel Locomotive
Southcoast Scale Models (HO) Samuel J. Rizzler Paper Co. Kit

April 2009

Project DCC, Part 9A: Computer Control Introduction
Athearn (HO) Genesis SD60M Diesel Locomotive
CMW (HO) Utility Truck
Charles Smiley (DVD) *Your Colorful Southern Pacific*
Kato (N) *Broadway Limited* Passenger Car Set & Add On
MTH (O) Premier Line Dash 8 Diesel Locomotive
Micro-Trains (Z) ACF Passenger Car Set
Piko (Large) Garden Train Set
Rivarossi (HO) 4-8-8-4 *Big Boy* Steam Locomotive
Sunset Models (HO) Brass SP Mogul Steam Locomotive
Walthers (N) Cornerstone Sanding Tower Kit & (HO) *Hiawatha* Set Conclusion

March 2009

Project DCC, Part 8 Integrating a Grade Crossing
Aristo-Craft (L) 2-Bay Hopper
Atlas (N) Code 65 True-Track & (HO) Covered Hopper
Bachmann (On30) Railbus and Trailer & (Book) *E-Z Model Railroads*
Banta (HO, S & O) Railroad Signs
Bar Mills (HO & O) Gas Stop
Bluford Shops (N) Auto Boxcars
Broadway Limited (HO) 2-10-2 Steam Locomotive
Drail Modelspoor (Windows PC) *AnyRail Layout Design Software*
Norscot (HO) Caterpillar D9T Bulldozer
S Helper (S) CNJ Cement Car
USA Trains (1:29) *Docksider* 0-6-0T Steam Locomotive

February 2009

Project DCC, Part 7B Signal System Wiring
Aristo-Craft (DVD) *How Model Trains Are Made*
Atlas O (O) MP15 Locomotive
Bachmann (1:20.3) Davenport Critter Mechanical Locomotive
Broadway Limited C30-7
Digitrax (Z, N & HO) DZ125 Decoder
Kato (N) Southern Pacific PA-1 & PB-1 Diesel Locos & GG1 Electric Locomotive
Lenz (DCC) Lenz Set-100 Starter Set Upgrade
Matysik Display Shelf (Multi Scale) Display Shelves
Old and Weary (HO) Tappan Station
Piko (1:22.5) Taurus Locomotive
Seivers Benchwork (ALL) Benchwork Section Kits
Walthers (HO) H-10-44 Diesel Loco & Everett Street Station

January 2009

Project DCC, Part 7A Signal System Wiring
Special Report: Kader Buys Sada Kan
Athearn (N) F45/FP45 Diesel Locomotive & (HO) Checker Cab
Faller (N) Animated Car System
Grand River Models (S) Greg's Grocery Kit
MRC (DCC) 1820 Sound Decoder for Athearn RS3 Locomotive
MTH (HO) NYC 4-8-2 *Mohawk* & (O) CA-1 Caboose
Signature Press (Book) *Southern Pacific Freight Cars, Vol 5*
Walthers (HO) *Hiawatha* Diner and Tap Lounge & RS-2/RSC-2

December 2008

Aristo-Craft (1:29) 40-Foot Boxcars
Athearn (N) Ford C Rescue Trucks, (HO) CSX & Santa Fe Train Sets, (HO) F-7A/B Diesel Locomotive
Atlas (N) Trainman Train Set
Atlas O (O) Industrial Rail Starter Set
Bachmann (Track) E-Z Command DCC Turnouts
Blair Lines (HO) *Pizzaland* Kit
MTH (HO) Railking Scale Diesel Starter Set
Steamscenes (Calendars) 2009 Railroad Themed Calendars
Piko (HO) ICE-3 Train Set
Tokyo Marui (Z) Night Train Set

November 2008

Project DC, Part 6: Turnout Control Wiring
Athearn, Kato & Walthers (HO) Intermodal Cars
Atlas O (O) Master Line, Train Man & Industrial Rail Freight Car Roundup
Bachmann (Fn3) Boxcar
Charles Smiley (Video) *Key System Scrapbook*
Con-Cor (HO) Union Pacific M-10000
GC Laser (N & HO) Utility Truck Toolbox Kit
Granite Creek (On3) Logging Cars
Noch (HO) Shed/Kiosk Kit
Pine Canyon (S0 Professional Building Kit
Preiser (HO) Vegetable Wagon
Smoky Mountian (S) 41-foot Flat Car Kit
Train Control System (DCC & N) Decoder for "Classic N" Locomotives

October 2008

Special Coverage: MTH/MKT Trade Secret Lawsuit Settled
Project DCC Part 5: Track Assembly, Wiring, & Block Detection
Atlas (N) C420 Diesel Locomotive
Bachmann (HO) Peter Witt-Style Street Car
BVRR Specialties (Tool) Maxi-Grip Screw Starter
Grizzly Mountain Engineering (O) Farmers & Freight Wagons
Kadee (HO) Cushion Underframe Boxcars
Kato (N) Gunderson MAXI-IV Well Cars
Lionel (O) Legacy-Equipped FEF-3 Steam Locomotive
NCE (Electronics) DCC Wireless System
NSLC (Tool) Flamingo Glue
Oak Tree Systems (Electronics) SC-2 Servo Controller
Preiser (O) American Railroad Figures
Ye Olde Huff N Puff (On30) Freight Car Kits

September 2008

Special Coverage: NMRA 2008 National Train Show
Project DCC Part 4: Layout Configuration
Banta/Bachmann (On30) Boxcar Body Conversion Kit
Factory Direct Trains (HO) Trackmobile
Golden West Books (Book) *West Coast Interurbans-California*
Lionel (O) Legacy 990 Command Control System
MTH (HO) GS4 4-8-4 *Daylight* (O) Railking SW1 Diesel Locomotive
Red Caboose (HO) S-40-5 Stock Cars
Smokey Mountain Model Works (S) Ventilated Boxcars
Tomix (N) Freight and Fire Trucks
Wheels of Time (N) Harriman Passenger Cars
Woodland Scenics (O) Scenic Accent Figures

August 2008

Project DCC Part 3: DCC System Familiarization
Allen Keller (DVD) *Great Model Trains Vol. 58*
Aristo-Craft (1:24) C-16 Steam Locomotive
Bachmann (All Scales) DCC Control System, (Fn3) Tank Cars
Brass Trains (Book) *Brass Model Trains Price & Data Guide Vol. 1*
Broadway Limited (HO) Union Pacific Big Boy Steam Locomotive
Intermountain (N) SD45-2 Diesel Locomotive and Wood Deck Flat Car
Kato (N) Daylight Northern 4-8-4 GS 4 Steam Locomotive Set
MTH O) 19th Century Wood Coaches
Sidetrack Laser (HO) Cougar Ridge Lumber Co.
Siflor (All Scales) Landscaping Material
Walthers (HO) Proto 2000 Early EMD Road Switchers

July 2008

Special Coverage: How to Modify Your Old Roundhouse Box Cab
Project DCC Part 2
Athearn (HO) SD40-T Tunnel Motors
Bachmann (On30) Baldwin 4-4-0 American Steam Locomotive
Brass Guide (Book) *Brass Train Guide Book*
First Gear International (HO & O) TD25 Crawler
ESU/Loksound (All Scales) Sound Decoder with Railmaster Hobbies Ported Speakers
ICOM (N) TMC400 Motorcar, Park Set, Park Institution, and Bulldozer
Micro-Trains (N) 40-Foot Drop Bottom Gondola with Woodchip Extension
River Point Station (HO) F-350 Duallies
USA Trains (1:29) Fairmont Speeders

Model Railroad News
Making The Switch To O Scale
Recreating Old Operations in t
Bachmann's new 2-6-6
Steam Locomotive —
Jewel of the Northwest
Transform Your Garden Railroad with Piko Qwik Kit Structures
Converting Kato's NW2 into a Must-Have Yard Switcher
HO Track Covers System Makes Simulating Street Running Easy
Bridgewerks' New All-Scale DC Power Controller Opens Up Running Options

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• call (541) 955-1096 to check on availability; • fax (541) 955-0346; • e-mail: nancy@modelrailroadnews.com

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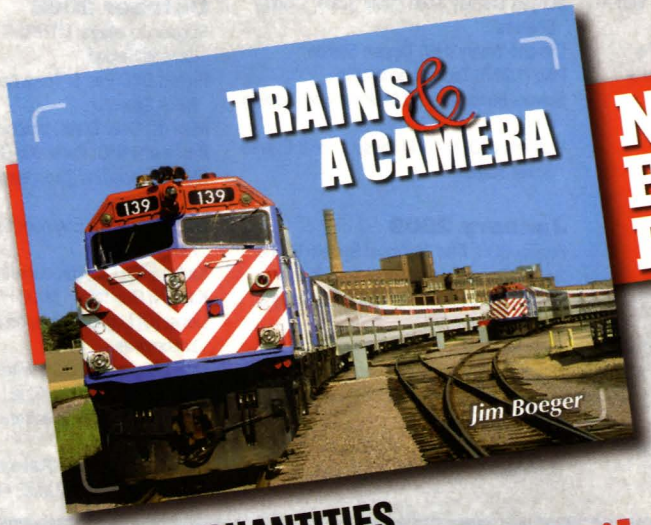

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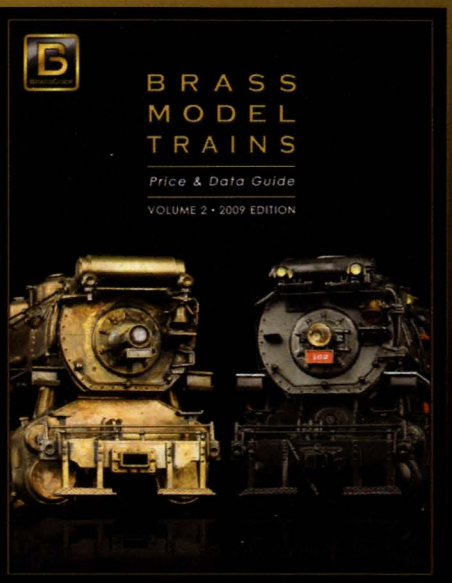

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